

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail /One on One Meeting Log

Contact Name: Katie McKafferty

Agency/Organization: USACE, Kenai AK

*Phone No./E-mail Address: 907-283-3519 (called her at her telework # 907-252-2878);
Katherine.A.McCafferty2@usace.army.mil*

Date: 1/5/15

Time: 9:04 am

Grant Lake Licensing Team Contact: Levia Shoutis

Summary of Conversation and/or E-mail Exchange:

Email exchange between Levia Shoutis and Katie McKafferty. Levia had asked Katy if the Approved Jurisdictional Determination (JD) form needed to be completed if KHL was requesting a Preliminary JD rather than an Approved JD. Katie confirmed that KHL does not need to submit the Approved JD form as part of the Preliminary JD.



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Grant Lake Project



Presentation Overview

- Natural Resources Reports
- Project Infrastructure
- Operational Parameters
- Draft License Application (DLA)

Recreation and Visual Resources

Studies

- Recreation Resources (summer & winter)
- Visual Resources



Cultural Resources

Studies

- Extensive Literature Review
- Field Survey of the Area of Potential Effect (APE)

Recommendations of

- Eligibility
- Effect



Aquatic Resources (Fisheries Assessment)

Studies

- Salmon Spawning Distribution & Abundance
- Resident & Rearing Fish Abundance and Distribution
- Habitat Mapping
- Instream Flow Studies

Methods

- Adult Weir
 - o Enumeration
 - o Biological Samples & Data
 - o Radio & Floy Tagging
- Surveys (Visual, Redd, Carcass)
- Juvenile Incline Plane Traps
- Minnow Trapping
- Snorkel Surveys
- Beach Seining



Aquatic Resources (Fisheries Assessment)

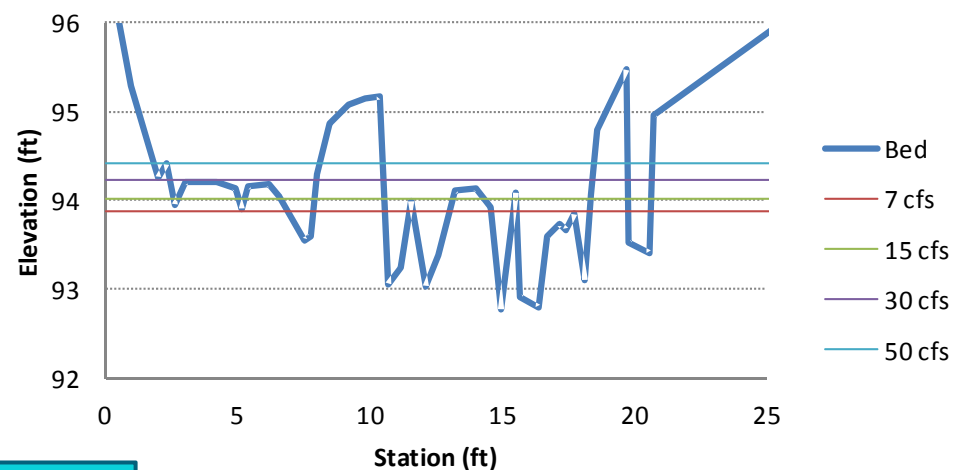


Aquatic Resources

(Instream Flow Studies & Habitat Mapping)

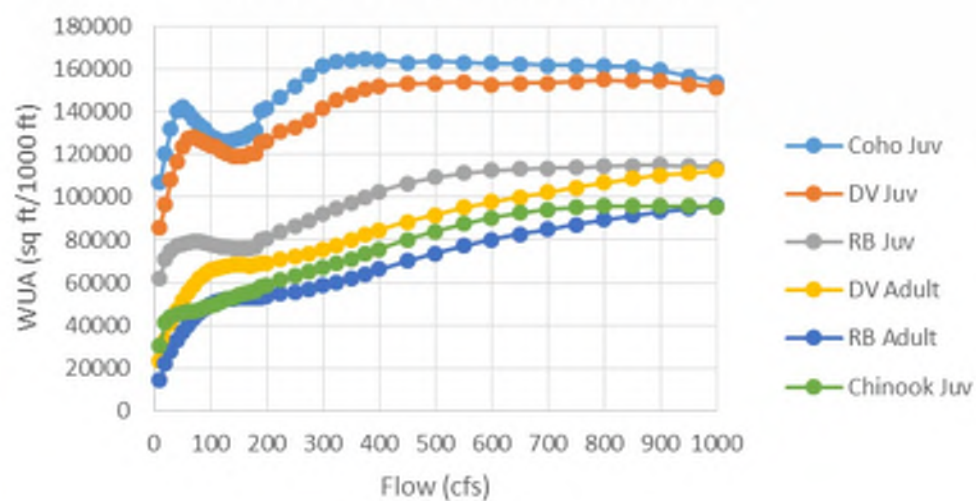


T520 Connectivity Transect



99.8%

Grant Creek Juvenile/Adult WUA



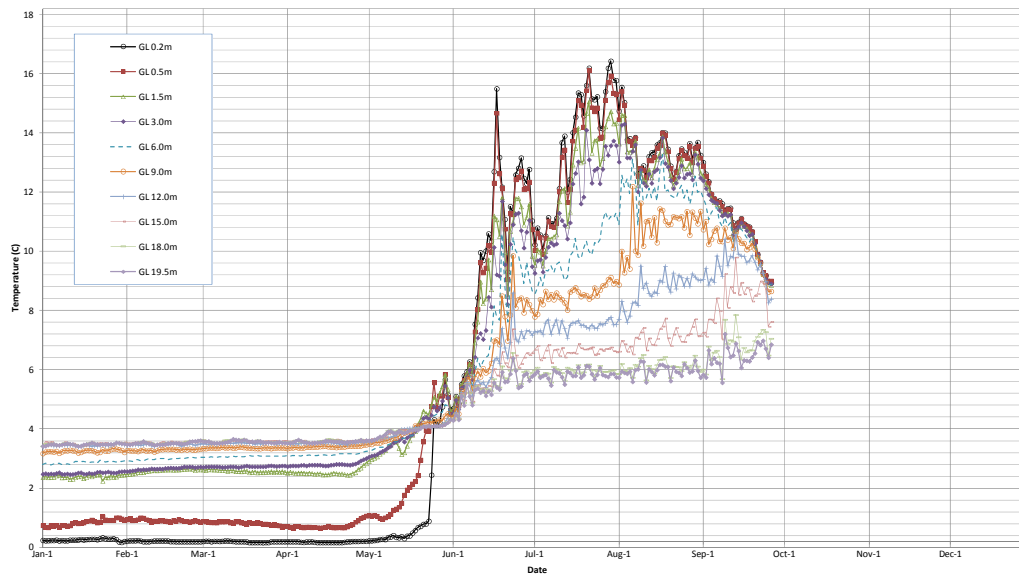
Water Resources

Studies

- Water Quality & Temperature
- Hydrology Studies (Stream Gaging)
- Macroinvertebrate & Periphyton
- Geomorphology (Sediment Transport)



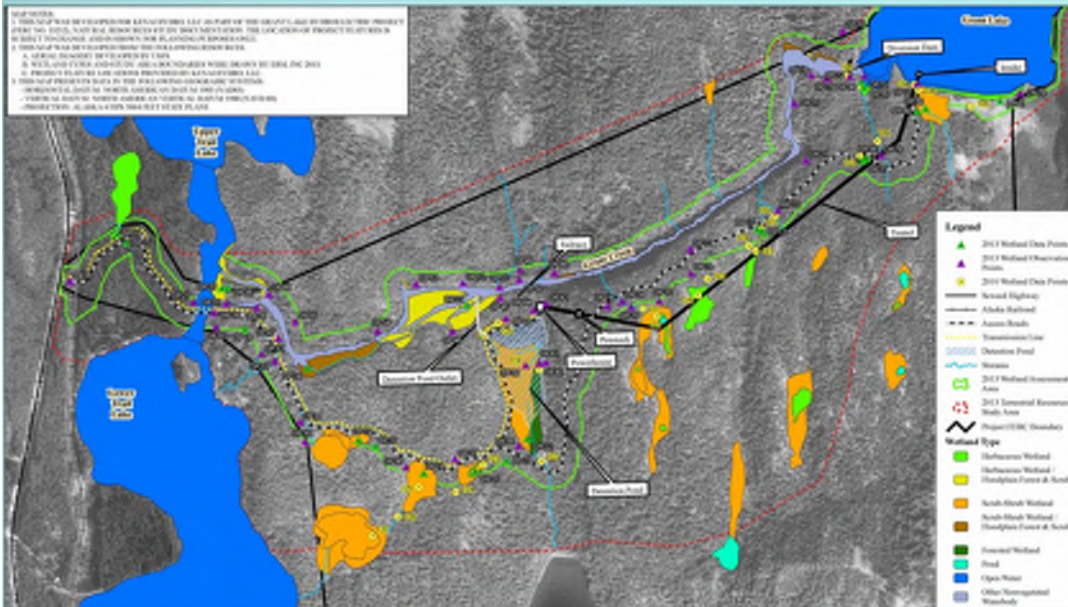
Grant Lake 0.2m - 19.0m - Mean Daily Lake Temperature, CY 2013



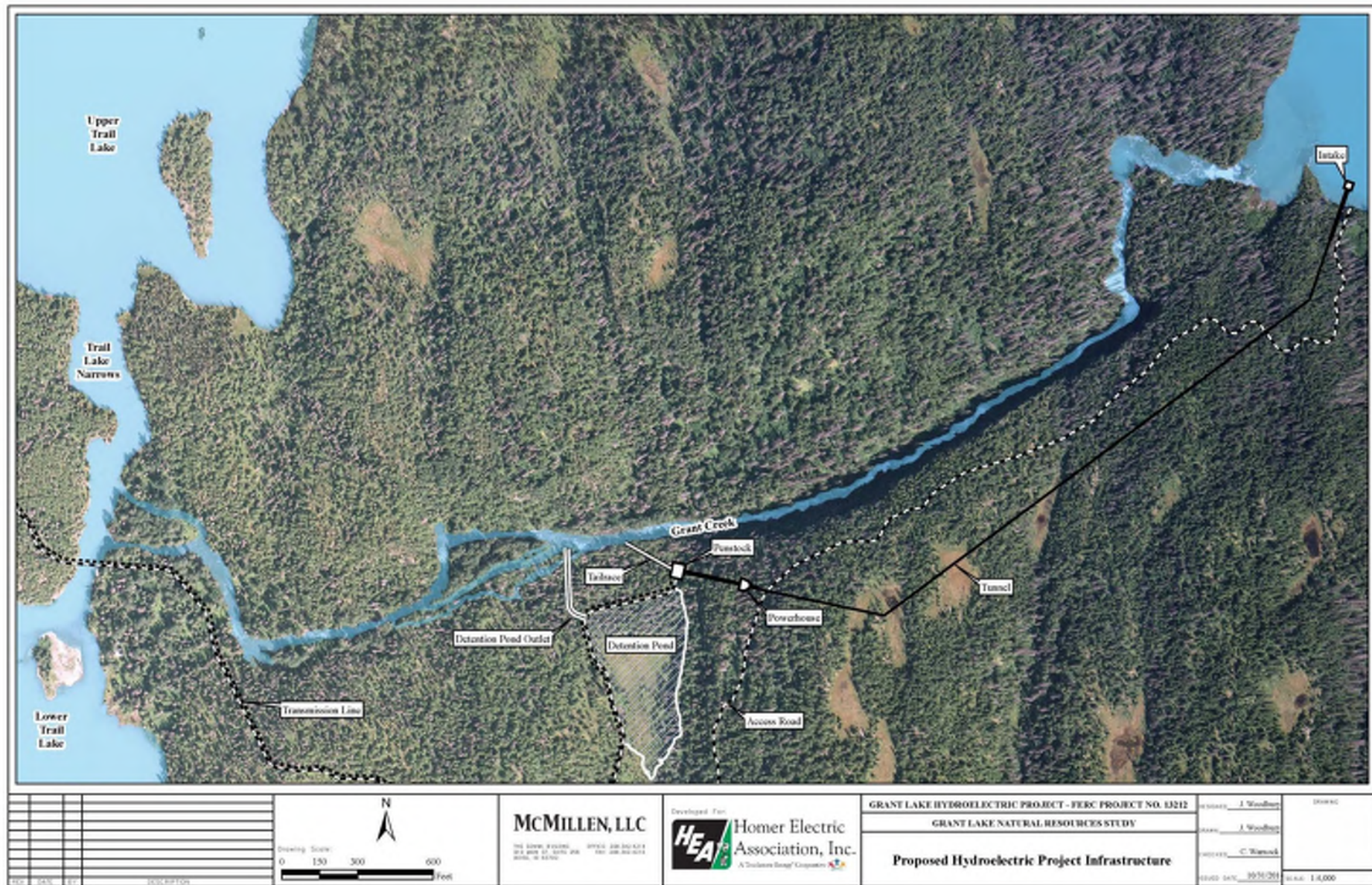
Terrestrial Resources

Studies

- Botanical
- Wetlands Mapping & Classification
- Wildlife Studies



Project Infrastructure

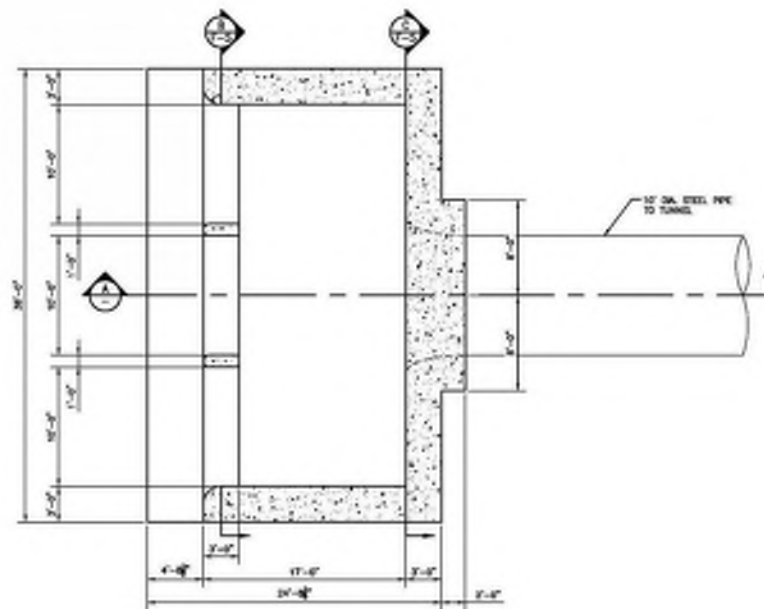


- Capacity: 5 MW
- Energy : 19,500 MWh Annually
- Plant Factor: 0.45



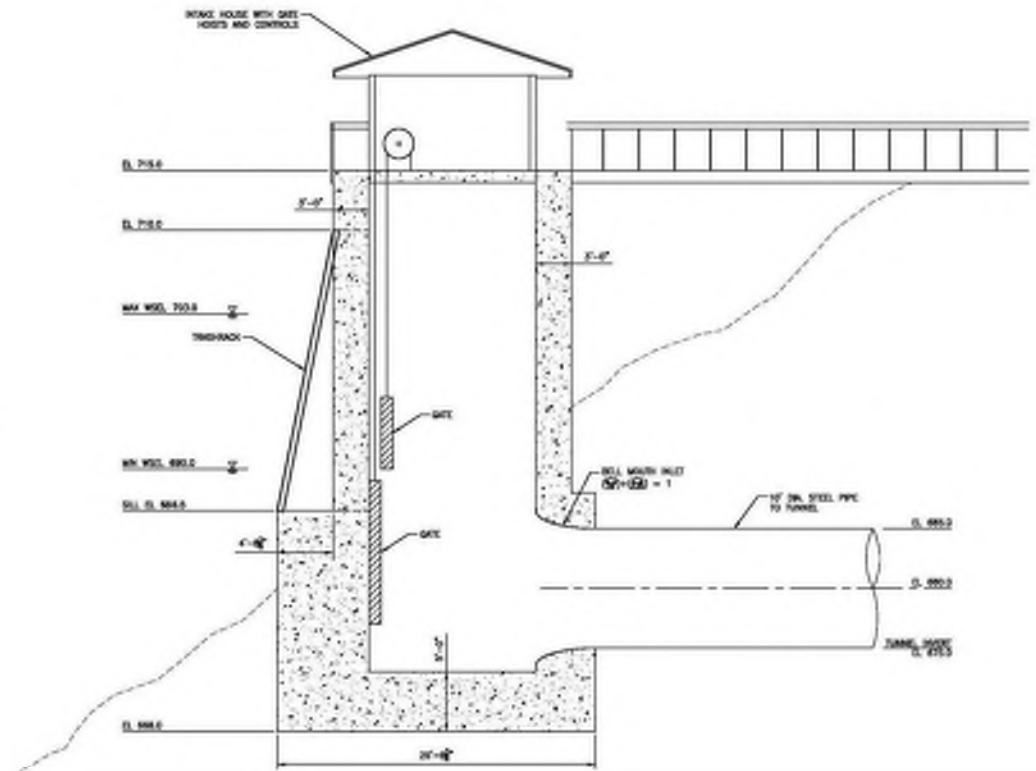
Infrastructure Development

(Intake Structure)



INTAKE PLAN AT EL 886.5

SCALE: 1" = 5'



INTAKE SECTION

SCALE: 1" = 5'

F.E.I.C. PROJECT NO. 13212
GRANT LAKE HYDROELECTRIC PROJECT
KINAI HYDRO LLC

EXHIBIT F-4
INTAKE PLAN AND SECTION

SCALE AS SHOWN

DRAFT

Draft License Application

Initial Statement

Exhibit A: Project Description

Exhibit B: Project Operations & Resource Utilization

Exhibit C: Construction Schedule

Exhibit D: Project Costs & Financing

Exhibit E: Environmental Analysis

Exhibit F: General Design Drawings & Supporting Info

Exhibit G: Project Boundary Maps

Project Information

Kenai Hydro, LLC website
(www.kenaihydro.com)

FERC E-Subscription Service
(www.ferc.gov)

Kenai HYDRO

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What's New

September 15, 2009
[FERC approves KHL's request to use the TLP Grant Lake/Falls Creek](#)

Thank you for visiting the Kenai Hydro Licensing Web site!

Kenai Hydro has developed this Web site to provide a central clearinghouse for information related KHL's activities under preliminary permits for potential hydroelectric projects on the Kenai Peninsula. This Web site will be used to provide regular updates on the project, announce upcoming meetings and events, and will act as repository for documents related to the licensing effort.

Kenai Hydro LLC is jointly owned by [Wind Energy Alaska LLC](#) and [Homer Electric Association \(HEA\)](#). Wind Energy Alaska is an Alaska company dedicated to developing and operating commercial-scale wind energy projects along the state's Railbelt-energy grid and in other areas of Alaska. It is a 50-50-owned subsidiary of [CIRI](#) and [enXco, Inc.](#)

As the project progresses, this site will grow. So please check back often for updates and upcoming meetings. If you would like to receive e-mail updates please fill out our [e-mail sign-up form](#).

QUESTIONS



-----Original Message-----

From: Levia Shoutis
Sent: Thursday, January 08, 2015 11:09 AM
To: 'McCafferty, Katherine A POA'
Subject: RE: Grant Lake schedule (UNCLASSIFIED)

Hi Katie,
I just checked with Cory and Emily with McMillen. They were hoping to have a draft 404 package to you sometime in March. I'll keep you posted on a firmer timeframe as it gets closer. Let me know if you need more info.
Hope you're well,

Levia Shoutis
Environmental Resources Management (ERM), Inc.
P.O. Box 582
1 Ninth St. Island Dr.
Livingston, MT 59047
406-222-7600 x229
406-570-6194 Cell
406-222-7677 Fax
levia.shoutis@erm.com
www.erm.com

-----Original Message-----

From: McCafferty, Katherine A POA [mailto:Katherine.A.McCafferty2@usace.army.mil]
Sent: Wednesday, January 07, 2015 11:25 AM
To: Levia Shoutis
Subject: RE: Grant Lake schedule (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hi Levia,
Do you know when I might see an application?

Katie McCafferty
Project Manager
Regulatory Division, Kenai Field Office
U.S. Army Corps of Engineers, Alaska District
phone: 907-252-2878

The Kenai Field Office has relocated, our new physical and mailing address is:
U.S. Army Corps of Engineers, Alaska District Kenai Field Office
44669 Sterling Highway, Suite B
Soldotna, AK 99669-7915
Phone: 907-252-3770

website: <http://www.poa.usace.army.mil/Missions/Regulatory.aspx>

Classification: UNCLASSIFIED
Caveats: NONE

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Please visit ERM's web site: <http://www.erm.com>

Hi John,

Hoping this finds you well and rested from the holiday season. Happy new year.

We have been reading through your reports on Grant Creek. There is lots of great work and information in there! There is one additional piece of information, specific to the habitat time series analysis, that we would be interested in.

In this analysis, you reported average WUA for the historic time series. This certainly accomplishes the goal of comparing and calculating the difference between the historic and the proposed flow regime. We didn't originally ask for it, but if it would be possible, we'd like to also explore the range of historic habitat conditions in Grant Creek, in order to come up with a range of possible flow scenarios. You may already have the range of historic habitat calculated, or we could even use your data to perform these calculations ourselves.

If this doesn't quite make sense, just let me know, and I'll give you a ring,

Thanks!

Jason

From: John Blum [<mailto:john.blum@mcmillen-llc.com>]

Sent: Monday, October 27, 2014 12:17 PM

To: Miller, Monte D (DFG); Mouw, Jason E B (DFG); Klein, Joseph P (DFG); jeffry_anderson@fws.gov; dglass@ciri.com; susan.walker@noaa.gov; 'Mark Miller'; 'John Stevenson'; 'Cory Warnock'

Cc: 'Emily Andersen'; 'John Blum'

Subject: Grant Creek Instream Flow Additional Information

Good Afternoon:

As you are aware, the Instream Flow Work Group (Work Group) met a number of times between March and July to discuss outstanding issues related to the Instream Flow Study conducted for the Grant Lake Hydroelectric Project. Issues that were discussed included:

- Sockeye Salmon fry emergence timing
- Locations of salmonid spawning and rearing in Grant Creek and along transects
- Transect weighting
- Final Weighted Usable Area (WUA) for Grant Creek
- Effective Spawning Analysis
- Habitat Time Series, pre-Project and with-Project

KHL agreed to get develop this information and distribute it to the Work Group. We are getting this report to you for your information and to close the loop. The results of these investigations will be incorporated into the Draft License Application (DLA); you will have the opportunity to formally comment on these results during the DLA review period.

I want to thank you all for your participation in the process. Your insights, experience, and questions definitely made this a better product.

Thanks again, and I look forward with working with you further as we move forward.

John

John P. Blum

**

From: Mohorcich, John [<mailto:JMohorci@kpb.us>]

Sent: Friday, January 09, 2015 2:46 PM

To: Gallagher, Joe

Subject: FW: Moose Pass Open House announcement - KPB Municipal Entitlement Land Selection Project

Hi Joe,

We wanted to give you (HEA) this invite and information specifically because these lands in the Moose Pass area include the proposed Grant Lake Hydro Project. FYI, The Preliminary Decision recommends that the foot print lands remain in state ownership.

The State of Alaska, Department of Natural Resources has issued a Preliminary Decision (PD) on January 6, 2015 to convey land to the borough. This PD refers to those KPB selected lands of 43,348 acres along the Seward Highway, the Moose Pass Community, the Seward / Bear Lake area, and that area stretching from Kasilof to Homer, also known as State Kenai Area Plan (KAP) Regions 2, 3, 6 & 7. The attached document provides information regarding the scheduled Jan 15, 2015 Municipal Entitlement Open House Meeting to be held at the Moose Pass Community Hall. We have sent this to our KPB Advisory Planning Commissions (APC's), Planning Commissioners and Assembly member of Hope, Cooper Landing, Moose Pass and Seward. It's our intention to provide a joint forum to discuss specifically those lands along the Seward Highway corridor, the Moose Pass Community and Seward area.

We recognize the 30 day PD public comment period limits all of our ability to fully disseminate the information and to act formally with a review and recommendations / comments. The KPB Land Management Division is currently discussing a time extension option with the State. At this time we are all working under the State's February 6, 2015 deadline.

If you have additional question you can contact me @ 907-714-2217, jmohorci@borough.kenai.ak.us

John Mohorcich, Land Management Municipal Entitlement Project
Kenai Peninsula Borough

No virus found in this message.

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Version: 2015.0.5577 / Virus Database: 4223/1 - Release Date: 11/10/14

Internal Virus Database is out of date.

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail/One-on-One Meeting Log

Contact Name: Jason Mouw

Agency/Organization: Alaska Department of Fish and Game

Phone No./E-mail Address: jason.mouw@alaska.gov; 907-717-5740

Date: January 13, 2015

Time: 12:06 PST

Grant Lake Licensing Team Contact:

John Blum

Summary of Conversation and/or E-mail Exchange:

Jason had reviewed the information we had provided ADF&G re: Habitat Duration Analysis based upon a composite 66 year period of record (without Project) and the same for “with-Project.” We had provided mean monthly values for each month for the species and life history stages that were modeled.

Jason asked if we could provide WUA for the species and life history stages modeled; however, in addition to the mean monthly flow values and associated WUA, he asked if we could provide the 25%, median, and 75% exceedance flow values and the associated WUA for those values for each species and life history stages.

I told Jason I would have the tables and values to him within 3 weeks of our call.

John Blum

From: Andersen, Emily
Sent: Tuesday, January 20, 2015 11:06 AM
To: Kenneth Hogan; Warnock, Cory
Cc: 'Mike Salzetti'
Subject: RE: Grant Lake Call

Thanks, Ken. I will send an Outlook appointment. Cory will follow up with the call-in details when he's back in the office next Monday. -- Emily

Emily Andersen
Senior Licensing and Regulatory Specialist

2525 NW Raleigh Street | Portland, OR 97210
503.827.8089 p | 503.799.4189 c | 503-827-8048 f | andersen@mcmjac.com

From: Kenneth Hogan [<mailto:Kenneth.Hogan@ferc.gov>]
Sent: Tuesday, January 20, 2015 9:40 AM
To: Warnock, Cory
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: RE: Grant Lake Call

Hi Cory,

The proposed date and time will work for me.

Ken

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Friday, January 16, 2015 1:05 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Grant Lake Call

Hi Ken,

Mike, Emily and I are hoping to set up a call with you to discuss a variety of topics associated with the Grant Lake Project. Given all of our schedules, I'd like to see if we can't get something set up for the week after next. As an initial shot, I'm going to propose Tuesday, January 28th at 10am Pacific (1 EST). I've provided a bulleted list of the topics we'd like to go over with you below. Let me know if this time will work for you and if not, give me a couple alternate times that week that will work and I'll get it set up.

Thanks in advance and hope you had a great holiday season,

Cory

Topics to discuss:

- Update on progress
- Public meeting debrief

- Extension timing
- 3rd preliminary permit application timing

Cory Warnock

Senior Licensing and Regulatory Consultant

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | Warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

Andersen, Emily

From: Andersen, Emily
Sent: Thursday, January 22, 2015 11:12 AM
To: 'Kenneth Hogan'; Warnock, Cory
Cc: 'Mike Salzetti'; Shana Murray; Timothy Konnert
Subject: RE: Grant Lake Permit Extension vs. 3rd permit.

Thanks, Ken, for clearing it up. -- Emily

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Thursday, January 22, 2015 10:31 AM
To: Andersen, Emily; Warnock, Cory
Cc: 'Mike Salzetti'; Shana Murray; Timothy Konnert
Subject: RE: Grant Lake Permit Extension vs. 3rd permit.

Emily,

The regulations you sight pre-date the legislation for permit term extensions. Those regulations apply when a permit was originally issued for a term less than three years and the permit holder wishes to extend the authorized term up to the three year limit. In other words, they do not apply to KHL's situation.

Ken

From: Andersen, Emily [mailto:Andersen@mcmjac.com]
Sent: Tuesday, January 20, 2015 3:28 PM
To: Kenneth Hogan; Warnock, Cory
Cc: 'Mike Salzetti'; Shana Murray; Timothy Konnert
Subject: RE: Grant Lake Permit Extension vs. 3rd permit.

Hi Ken. I can try to address your inquiry in Cory's absence this week. We were reviewing the regulations relevant to preliminary permits, specifically, 18CFR4.82 which states:

[§4.82 \[Preliminary Permit Application\] Amendments.](#)

- (a) Any permittee may file an application for amendment of its permit, including any extension of the term of the permit that would not cause the total term to exceed three years. (Transfer of a permit is prohibited by section 5 of the Federal Power Act.) Each application for amendment of a permit must conform to any relevant requirements of §4.81 (b), (c), (d), and (e).
- (b) If an application for amendment of a preliminary permit requests any material change in the proposed project, public notice of the application will be issued as required in §4.32(d)(2)(i).
- (c) If an application to extend the term of a permit is submitted not less than 30 days prior to the termination of the permit, the permit term will be automatically extended (not to exceed a total term for the permit of three years) until the Commission acts on the application for an extension. The Commission will not accept extension requests that are filed less than 30 days prior to the termination of the permit.

We thought that with the mention of requesting an extension of the permit term, this reg may be applicable to KHL's situation, but were not certain on this point. Also, we reviewed some of the extension request letters from the projects listed in the Status of Requests of Preliminary Permit Extensions Excel spreadsheet available on FERC's website (attached). Some that were approved extensions included full applications (consistent with 4.81), and some did not.

Any clarity you can provide would be greatly appreciated. Thanks, Emily

Emily Andersen

Senior Licensing and Regulatory Specialist

2525 NW Raleigh Street | Portland, OR 97210

503.827.8089 p | 503.799.4189 c | 503-827-8048 f | andersen@mcmjac.com

From: Kenneth Hogan [<mailto:Kenneth.Hogan@ferc.gov>]

Sent: Tuesday, January 20, 2015 12:07 PM

To: Warnock, Cory

Cc: Andersen, Emily; 'Mike Salzetti'; Shana Murray; Timothy Konnert

Subject: RE: Grant Lake Permit Extension vs. 3rd permit.

Hi Cory,

It is my understanding that a request from an extension of your preliminary permit term may be a simple letter. The added detail (e.g., progress to date and schedule moving forward) is intended to provide justification for the extension and to show FERC that granting of the extensions is warranted and appropriate based on project specific circumstances. I am not aware of any requirement to include an actual application for a preliminary permit application (exhibits 1-3). That said, if you can tell me where you found this to be a requirement (whether in the statute or our regulations), I will look into it in further detail.

Ken

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]

Sent: Friday, January 16, 2015 3:12 PM

To: Kenneth Hogan

Cc: Andersen, Emily; 'Mike Salzetti'

Subject: RE: Grant Lake Permit Extension vs. 3rd permit.

Hi Ken,

One of the topics related to my request earlier today for a phone call with you was associated with our Preliminary Permit extension request. Prior to that call and given associated time constraints, I have an interim question that hopefully you can help me with. I'm in the process of finalizing KHL's extension request letter and per our conversations have made it quite descriptive with respect to both the significant progress we've made over the term of our 2nd permit and our detailed schedule for completion of both the DLA (already very far along) and the subsequent filing of our FLA later this year. Again, per our discussions late last year, I'm under the impression that this will meet the needs of our extension request. However, after a bit of a review of the regulations and in looking at some other examples, I see some potential need for an actual Preliminary Permit Application filing (Exhibits 1-3) in association with the extension letter for the extension request to be deemed complete and acceptable for consideration. As you know (see below), there is the potential, if the decision made with respect to our extension request is to deny, that we would also file for a 3rd Preliminary Permit. Given this, I would assume that would be the appropriate time for a full-blown 3rd PP application but I want to make sure that I'm going down the right path with my assumption.

Per our discussions, we have a few options given how far along with are in the license application process for maintaining site priority. That said, the one that would provide KHL the most comfort and convey to FERC that they will see an FLA later this year, is to take the extension request route. As such, I'd like to make sure what we submit in that regard is complete and consistent with expectations. Given that we need to file that request no later than January 29th, I want to make sure I have a clear path for finalization. If a comprehensive and descriptive letter is what is required, we are nearing completion. If however, an actual Preliminary Permit application must be amended to the letter for it to be complete, I have some work to do.

Thanks in advance for your input,

Cory

Cory Warnock

Senior Licensing and Regulatory Consultant

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | Warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Kenneth Hogan [<mailto:Kenneth.Hogan@ferc.gov>]

Sent: Tuesday, August 19, 2014 8:54 AM

To: Cory Warnock

Cc: Shana Murray; Timothy Welch

Subject: Grant Lake Permit Extension vs. 3rd permit.

Cory,

As a result of our discussion's last week and regarding Kenai Hydro's (Kenai) desire to protect the Grant Lake site for an additional few months while it finalizes a license application, I spoke with my Deputy Division Director and asked the following questions.

- (1) Would we entertain a permit extension for a successive permit?
 - a. If yes, what is the earliest they should/could request an extension of their existing permit?
 - b. If yes, and the extension request is applied for and is denied, may Kenai still file a permit application for a third permit?

The following is what I have learned:

We will entertain an extension of the subsequent permit and you can request that permit extension at any time **prior to the last 30 days** of the permit's term. If the extension is requested and denied, Kenai hydro may still apply for a third permit. However, because we will apply the same standard to the permit extension request as we do a successive permit request, it is unlikely a successive permit will be granted unless new information with the successive permit application demonstrates an extraordinary circumstance. In the event Kenia Hydro requests an extension and it is denied, and given that recent denial of the extension request, it is possible (but not certain), that we would reject the permit application on the basis of lack of extraordinary circumstance.

As we discussed last Friday, you have four potential options: (1) take no action at all, until another entity applies for a permit at the Grant Lake site, at which time Kenai could file an NOI to file a final License application; (2) apply for the extension; (3) apply for a third permit; or (4) apply for the extension, and if denied apply for a third permit. Hopefully you have enough information to determine which approach is best for Kenai; however, if you wish to investigate further, you may want to research eLibrary for similar past cases (or hire an attorney) to help inform your decision.

As I mentioned during our call on Friday, if Kenai chooses to file for either an extension or a permit, or both, it should clearly demonstrate the progress it has made toward the development of its final license application (FLA). Kenai should also consider: (1) including a schedule of how the requested additional time would be used; and (2) requesting only the amount of time that is needed to prepare and file its FLA (e.g., if Kenai chooses to file for a 3rd permit, and only needs a year to complete the FLA, request a permit term of one year, not three).

I hope this helps.

Ken

Status of Requests for Preliminary Permit Term Extensions (Since August 9, 2013)

Docket Number	Project Name	Applicant	State	Extension Request Filed	Extension of Time Requested (Years)	Determination Issued	Extension of Time Granted (Years)
P- 13687	Pike Island	City of Oberlin, Ohio	OH/WV	8/26/2013	2	8/30/2013	0
P- 13806	Brooklyn Dam	5440 Hydro, Inc.	NH	8/28/2013	2	8/30/2013	2
P- 13458	Coon Rapids	BOST1 Hydroelectric LLC	MN	8/30/2013	2	9/6/2013	2
P- 13719	George W. Andrews Lock and Dam	Alabama Municipal Electric Authority	AL	9/30/2013	2	11/21/2013	0
P- 13728	Goodwin Dam	Goodwin Power, LLC	CA	11/1/2013	2	11/25/2013	0
P- 12532	Pine Creek Mine	Pine Creek Mine, LLC	CA	11/5/2013	2	3/20/2014	0
P- 12807	Mulqueeny Ranch Pumped Storage	BPUS Generation Development LLC	CA	11/26/2013	2	4/15/2014	0
P- 13839	Niagra Community	ECOsponsible, Inc.	NY	12/12/2013	2	1/29/2014	2
P- 13840	Niagra Community Hydro #2	ECOsponsible, Inc.	NY	12/12/2013	2	1/29/2014	2
P- 13948	Calligan Creek	PUD No. 1 of Snohomish County	WA	2/25/2014	2	4/22/2014	0
P- 13994	Hancock Creek	PUD No. 1 of Snohomish County	WA	2/25/2014	2	4/22/2014	0
P- 14085	Swanton Dam	Village of Swanton	VT	2/26/2014	2	3/4/2014	2
P- 13090	Morgan Creek	KC LLC	CA	2/28/2014	2	Pending	
P- 13877	Stonewall Jackson	Mahoning Hydropower, LLC	WV	2/28/2014	2	3/20/2014	2
P- 13954	Berlin Lake	Mahoning Hydropower, LLC	OH	2/28/2014	2	3/13/2014	2
P- 13951	Bear Creek	Bear Creek Hydro Associates, LLC	WA	3/4/2014	1	3/20/2014	1
P- 12966	Lake Powell Pipeline	Utah Board of Water Resources	UT	3/31/2014	2	5/14/2014	2
P- 14108	Mississippi River Lock and Dam No. 15	Western Minnesota Municipal Power Agency	IA	5/9/2014	2	5/15/2014	2
P- 13997	East Branch Dam	Richard A. Glover, Jr.	PA	5/28/2014	not specified	6/24/2014	0
P- 14061	Verde Pumped Storage	Arizona Independent Power, Inc.	AZ	6/1/2014	2	7/23/2014	0
P- 13842	Wild Flower Water Pumped Storage	Wild Flower Water, LLC	OK	7/28/2014	2	8/6/2014	2
P- 14110	Black Canyon	Black Canyon Hydro, LLC	WA	7/31/2014	2	9/10/2014	2
P- 13221	Mokeumne Pumped Storage	Pacific Gas and Electric Co.	CA	10/29/2014	2	Pending	

Last Updated On December 4, 2014

From: Mouw, Jason E B (DFG) <jason.mouw@alaska.gov>
Sent: Tuesday, January 27, 2015 2:19 PM
To: Blum, John
Cc: Warnock, Cory; Andersen, Emily
Subject: RE: Expanded WUA curves for Grant Creek

John,

This looks great. Thank you!

Jason

From: Blum, John [mailto:Blum@mcmjac.com]
Sent: Tuesday, January 27, 2015 12:41 PM
To: Mouw, Jason E B (DFG)
Cc: Warnock, Cory; Andersen, Emily; Blum, John
Subject: Expanded WUA curves for Grant Creek

Hi, Jason:

Per your request, I have rerun the hydrology to provide 25%, 50% (median), and 75% exceedance values for the 66 year composite record for Grant Creek. I did this for both the without-Project and with-Project scenarios. You had requested monthly time series; however, some life history periodicity reflected only partial months (for example, Chinook fry periodicity included only the last two weeks of May, while Chinook spawning periodicity was from Weeks 2 – 4 in August and the 1st week in September). In these instances I broke out only the pertinent data to reflect periodicity, and only used these data for WUA, with and without the Project.

The first page of the worksheet reflects the summary of flows for each listed time frame, as well as a periodicity table that worked for me to reflect those time periods. Also on the first worksheet are the 15 tables that summarize results for the species and life history stages that we modeled, as well as a final part of each table that gives the mean of each flow exceedance.

The second worksheet is the periodicity table as has been presented before; I used this for the periodicity that I showed on the first worksheet.

Let me know if you have any questions, or if I can provide any additional data, Jason. Have a good week!

John

John Blum
Senior Fisheries Scientist

McMillen Jacobs Associates
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Grant Creek flow comparisons, Pre-Project and With Project.

Month	Weeks	25% Exceedance		50% Exceedance		75% Exceedance	
		Pre-Proj	With Proj	Pre-Proj	With Proj	Pre-Proj	With Proj
January	All	57	103	91	34	81	
February	All	48	94	36	82	27	74
March	All	39	86	30	77	22	68
April	All	43	89	31	78	24	70
May	All	193	201	127	151	72	103
	Wks 3-4	193	201	177	177	127	127
June	All	487	390	398	280	308	185
July	All	551	390	488	390	433	325
	Wks 1-2	560	390	493	390	441	329
August	All	498	442	422	395	360	319
	Wk 1	533	395	459	387	409	302
	Wks 1-3	646	616	559	537	521	473
	Wks 2-4	485	480	410	395	348	323
Sept	Wks 3-4	470	441	388	395	328	353
	All	440	398	314	329	231	236
	Wk 1	426	395	320	348	267	270
	Wks 1-3	655	655	518	503	458	412
	Wks 2-4	445	392	310	325	218	216
Oct	All	282	301	182	182	125	126
	Wks 1-3	309	257	198	198	139	140
Nov	All	134	258	94	157	72	172
	Wks 1-2	160	205	110	157	83	130
Dec	All	78	126	59	104	45	91

Month	Chin-Spwn	Chin-Fry	Chin Juv	Coho-Spwn	Coho-Fry	Coho-Juv	Sock-Spwn	Sock-Fry	DV-Spwn	DV-Fry	DV-Juv	DV-AD	RB-Spwn	RB-Fry	RB-Juv	RB AD
Jan																
Feb																
Mar																
Apr																
May																
	Wks 3-4															
June																
July																
	Wks 1-2															
Aug																
	Wk 1															
	Wks 1-3															
	Wks 2-4															
	Wks 3-4															
Sept																
	Wk 1															
	Wks 1-3															
	Wks 2-4															
Oct																
	Wks 1-3															
Nov																
	Wks 1-2															
Dec																

Chinook Spawning WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
Aug				
Wks 2-4				
25% Exc	485	53,858	480	53,826
50% Exc	410	53,548	395	53,483
75% Exc	348	53,084	323	52,703
Sept				
Wk 1				
25% Exc	426	53,584	395	53,483
50% Exc	320	52,622	348	53,084
75% Exc	267	51,055	270	51,132
Total (mean)				
25% Exc		53,721		53,655
50% Exc		53,085		53,284
75% Exc		52,069		51,917

Coho Spawning WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
Sept				
Wks 2-4				
25% Exc	445	33,788	392	32,554
50% Exc	310	31,068	325	31,375
75% Exc	218	29,394	216	29,371
Oct				
25% Exc	282	30,559	301	30,884
50% Exc	182	29,013	182	29,013
75% Exc	125	27,009	126	27,086
Total (mean)				
25% Exc		32,173		31,719
50% Exc		30,040		30,194
75% Exc		28,202		28,229

Sockeye Spawning WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
Aug				
25% Exc	498	30,929	442	30,094
50% Exc	422	29,764	395	29,305
75% Exc	360	28,658	319	28,029

Daily Varden Spawning WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
Aug				
Wks 3-4				
25% Exc	470	42,904	441	43,478
50% Exc	388	44,051	395	44,020
75% Exc	328	43,677	353	44,026
Sept				
25% Exc	440	43,490	398	44,006
50% Exc	314	43,498	329	43,693
75% Exc	231	42,673	236	42,761
Oct				
25% Exc	282	43,330	301	43,341
50% Exc	182	43,325	182	43,325
75% Exc	125	46,674	126	46,616
Nov				
Wks 1-2				
25% Exc	160	44,514	205	42,834
50% Exc	110	47,410	157	44,718
75% Exc	83	46,093	130	46,385
Total (mean)				
25% Exc		43,560		43,415
50% Exc		44,571		43,939
75% Exc		44,779		44,947

Rainbow Trout Spawning WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
May				
Wks 3-4				
25% Exc	193	48,340	201	48,172
50% Exc	177	48,479	177	48,479
75% Exc	127	47,597	127	47,597
June				
25% Exc	487	48,202	390	48,380
50% Exc	398	48,375	280	47,583
75% Exc	308	47,663	185	48,435
Total (mean)				
25% Exc		48,271		48,276
50% Exc		48,427		48,031
75% Exc		47,630		48,016

Chinook Fry WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
May				
Wks 3-4				
25% Exc	193	122,849	201	124,222
50% Exc	177	113,069	177	113,069
75% Exc	127	105,774	127	105,774
June				
25% Exc	487	147,781	390	149,155
50% Exc	398	149,155	280	140,073
75% Exc	308	144,896	185	117,976
July				
25% Exc	551	146,628	390	149,155
50% Exc	488	147,772	390	149,155
75% Exc	433	148,468	325	146,790
August				
Wks 1-3				
25% Exc	646	145,961	616	145,734
50% Exc	559	146,462	537	146,912
75% Exc	521	147,237	473	147,907
Total (mean)				
25% Exc		140,805		142,067
50% Exc		139,115		137,302
75% Exc		136,594		129,612

Coho Fry WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
May				
Wks 3-4				
25% Exc	193	91,623	201	92,642
50% Exc	177	82,629	177	82,629
75% Exc	127	75,789	127	75,789
June				
25% Exc	487	104,544	390	107,907
50% Exc	398	107,667	280	103,900
75% Exc	308	106,708	185	87,158
July				
25% Exc	551	102,604	390	107,907
50% Exc	488	104,514	390	107,907
75% Exc	433	106,321	325	107,539
Aug				
25% Exc	498	104,213	442	105,970
50% Exc	422	106,750	395	107,757
75% Exc	360	108,273	319	107,246
Sept				
25% Exc	440	106,048	398	107,667
50% Exc	314	107,001	329	107,647
75% Exc	231	97,095	236	97,769
Oct				
Wks 1-3				
25% Exc	309	106,757	257	100,673
50% Exc	198	92,242	198	92,242
75% Exc	139	77,157	140	77,287
Total (mean)				
25% Exc		102,632		103,794
50% Exc		100,134		100,347
75% Exc		95,224		92,131

Coho Juvenile WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
Jan				
25% Exc	57	140,008	103	127,379
50% Exc	45	140,854	91	130,737
75% Exc	34	135,086	81	132,997
Feb				
25% Exc	48	141,372	94	129,745
50% Exc	36	136,721	82	132,782
75% Exc	27	128,375	74	135,027
Mar				

Daily Varden Fry Rearing WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
May				
Wks 3-4				
25% Exc	193	125,616	201	126,689
50% Exc	177	114,655	177	114,655
75% Exc	127	107,046	127	107,046
June				
25% Exc	487	137,744	390	139,767
50% Exc	398	139,403	280	139,309
75% Exc	308	140,925	185	120,270
July				
25% Exc	551	136,037	390	139,767
50% Exc	488	137,725	390	139,767
75% Exc	433	138,732	325	141,441
Aug				
25% Exc	498	137,539	442	138,574
50% Exc	422	138,926	395	139,540
75% Exc	360	140,998	319	141,259
Sept				
Wks 1-3				
25% Exc	655	135,396	655	135,396
50% Exc	518	136,978	503	137,415
75% Exc	458	138,284	412	139,102
Total (mean)				
25% Exc		134,467		136,038
50% Exc		133,537		134,137
75% Exc		133,197		129,823

Daily Varden Juvenile Rearing WUA

Period	Pre-Project		With Project	
	Flow	WUA	Flow	WUA
Jan				
25% Exc	57	127,504	103	124,705
50% Exc	45	121,116	91	126,379
75% Exc	34	112,628	81	127,824
Feb				
25% Exc	48	123,199	94	125,901
50% Exc	36	114,300	82	127,681
75% Exc	27	105,788	74	128

May				
25% Exc	193	57,353	201	58,020
50% Exc	127	51,370	151	53,652
75% Exc	72	46,856	103	49,164
June				
25% Exc	487	82,075	390	73,752
50% Exc	398	74,482	280	64,410
75% Exc	308	66,532	185	56,440
July				
25% Exc	551	86,421	390	73,752
50% Exc	488	82,153	390	73,752
75% Exc	433	77,658	325	67,852
Aug				
25% Exc	498	82,930	442	78,474
50% Exc	422	76,660	395	74,208
75% Exc	360	70,950	319	67,386
Sept				
25% Exc	440	78,293	398	74,482
50% Exc	314	66,998	329	68,195
75% Exc	231	60,753	236	61,133
Oct				
25% Exc	282	64,560	301	65,988
50% Exc	182	56,039	182	56,039
75% Exc	125	51,181	126	51,275
Nov				
25% Exc	134	52,067	258	62,785
50% Exc	94	48,429	157	54,080
75% Exc	72	46,856	172	55,170
Dec				
25% Exc	78	47,205	126	51,275
50% Exc	59	46,327	104	49,247
75% Exc	45	45,774	91	48,187
Total (mean)				
25% Exc		61,183		60,995
50% Exc		56,882		56,967
75% Exc		53,350		53,699

25% Exc	39	139,174	86	131,925
50% Exc	30	131,815	77	134,119
75% Exc	22	122,642	68	136,845
Apr				
25% Exc	43	140,509	89	131,282
50% Exc	31	132,633	78	133,816
75% Exc	24	124,935	70	136,237
May				
25% Exc	193	139,422	201	140,567
50% Exc	127	124,946	151	126,078
75% Exc	72	135,632	103	127,379
June				
25% Exc	487	161,368	390	162,574
50% Exc	398	162,331	280	156,710
75% Exc	308	160,714	185	134,380
July				
25% Exc	551	160,542	390	162,574
50% Exc	488	161,379	390	162,574
75% Exc	433	161,396	325	161,958
Aug				
25% Exc	498	161,493	442	161,158
50% Exc	422	161,687	395	162,422
75% Exc	360	162,829	319	161,519
Sept				
25% Exc	440	161,211	398	162,331
50% Exc	314	161,153	329	162,076
75% Exc	231	146,791	236	147,760
Oct				
25% Exc	282	157,052	301	160,202
50% Exc	182	131,596	182	131,596
75% Exc	125	124,958	126	124,952
Nov				
25% Exc	134	125,068	258	152,197
50% Exc	94	129,745	157	126,516
75% Exc	72	135,632	172	128,810
Dec				
25% Exc	78	133,816	126	124,952
50% Exc	59	139,519	104	127,251
75% Exc	45	140,854	91	130,737
Total (mean)				
25% Exc		146,753		145,574
50% Exc		142,865		140,556
75% Exc		139,987		138,217

Mar				
25% Exc	39	116,808	86	127,110
50% Exc	30	109,284	77	128,313
75% Exc	22	99,962	68	129,046
Apr				
25% Exc	43	119,727	89	126,681
50% Exc	31	110,120	78	128,198
75% Exc	24	102,292	70	129,120
May				
25% Exc	193	125,912	201	126,334
50% Exc	127	121,323	151	119,214
75% Exc	72	128,889	103	124,705
June				
25% Exc	487	152,842	390	151,521
50% Exc	398	151,999	280	137,276
75% Exc	308	143,247	185	123,239
July				
25% Exc	551	153,544	390	151,521
50% Exc	488	152,845	390	151,521
75% Exc	433	152,531	325	145,583
Aug				
25% Exc	498	152,872	442	152,643
50% Exc	422	152,394	395	151,820
75% Exc	360	149,176	319	144,759
Sept				
25% Exc	440	152,618	398	151,999
50% Exc	314	144,071	329	146,004
75% Exc	231	131,216	236	131,587
Oct				
25% Exc	282	137,763	301	142,284
50% Exc	182	121,696	182	121,696
75% Exc	125	121,635	126	121,479
Nov				
25% Exc	134	120,388	258	133,724
50% Exc	94	125,901	157	119,320
75% Exc	72	128,889	172	120,694
Dec				
25% Exc	78	128,198	126	121,479
50% Exc	59	128,337	104	124,625
75% Exc	45	121,116	91	126,379
Total (mean)				
25% Exc		134,281		136,325
50% Exc		129,449		131,837
75% Exc		124,781		129,423

Dolly Varden Adult Rearing WUA					
Period	Pre-Project		With Project		
	Flow	WUA	Flow	WUA	
June					
25% Exc	487	91,521	390	84,149	
50% Exc	398	84,873	280	74,590	
75% Exc	308	76,755	185	69,375	
July					
25% Exc	551	95,752	390	84,149	
50% Exc	488	91,588	390	84,149	
75% Exc	433	87,685	325	78,193	
Aug					
25% Exc	498	92,259	442	88,403	
50% Exc	422	86,808	395	84,601	
75% Exc	360	81,423	319	77,686	
Sept					
25% Exc	440	88,244	398	84,873	
50% Exc	314	77,263	329	78,564	
75% Exc	231	71,740	236	71,991	
Oct					
25% Exc	282	74,739	301	76,163	
50% Exc	182	69,181	182	69,181	
75% Exc	125	68,735	126	68,781	
Nov					
25% Exc	134	69,028	258	73,181	
50% Exc	94	65,796	157	69,114	
75% Exc	72	60,727	172	68,965	
Total (mean)					
25% Exc		85,257		81,819	
50% Exc		79,251		76,700	
75% Exc		74,511		72,499	

50% Exc	59	77,179	104	72,565
75% Exc	45	75,220	91	73,657
Total (mean)				
25% Exc		84,600		86,460
50% Exc		81,515		82,170
75% Exc		79,027		79,856

Rainbow Trout Juvenile Rearing WUA					
Period	Pre-Project		With Project		
	Flow	WUA	Flow	WUA	
Jan					
25% Exc	57	80,090	103	79,213	
50% Exc	45	79,217	91	80,017	
75% Exc	34	77,295	81	80,219	
Feb					
25% Exc	48	79,505	94	79,808	
50% Exc	36	77,776	82	80,205	
75% Exc	27	75,271	74	80,414	
Mar					
25% Exc	39	78,498	86	80,146	
50% Exc	30	76,332	77	80,324	
75% Exc	22	73,503	68	80,480	
Apr					
25% Exc	43	79,026	89	80,102	
50% Exc	31	76,573	78	80,294	
75% Exc	24	74,211	70	80,535	
May					
25% Exc	193	81,265	201	81,889	
50% Exc	127	77,669	151	76,819	
75% Exc	72	80,474	103	79,213	
June					
25% Exc	487	109,716	390	102,663	
50% Exc	398	103,478	280	90,732	
75% Exc	308	93,887	185	79,273	
July					
25% Exc	551	112,294	390	102,663	
50% Exc	488	109,768	390	102,663	
75% Exc	433	106,403	325	95,733	
Aug					
25% Exc	498	110,284	442	107,145	
50% Exc	422	105,496	395	103,172	
75% Exc	360	99,511	319	95,082	
Sept					
25% Exc	440	106,980	398	103,478	
50% Exc	314	94,539	329	96,164	
75% Exc	231	85,515	236	86,056	
Oct					
25% Exc	282	90,961	301	93,126	
50% Exc	182	78,207	182	78,207	
75% Exc	125	77,800	126	77,734	
Nov					
25% Exc	134	77,252	258	88,400	
50% Exc	94	79,808	157	77,006	
75% Exc	72	80,474	172	77,337	
Dec					
25% Exc	78	80,294	126	77,734	
50% Exc	59	80,203	104	79,154	
75% Exc	45	79,217	91	80,017	
Total (mean)					
25% Exc		90,514		89,697	
50% Exc		86,589		85,396	
75% Exc		83,630		82,675	

Rainbow Trout Adult Rearing WUA					
Period	Pre-Project		With Project		
	Flow	WUA	Flow	WUA	
May					
Wks 3-4					
25% Exc	193	53,914	201	54,003	
50% Exc	177	53,766	177	53,766	
75% Exc	127	52,959	127	52,959	
June					
25% Exc	487	73,251	390	65,803	
50% Exc	398	66,472	280	57,866	
75% Exc	308	59,607	185	53,851	
July					
25% Exc	551	77,775	390	65,803	
50% Exc	488	73,322	390	65,803	
75% Exc	433	69,265	325	60,728	
Aug					
25% Exc	498	74,034	442	69,981	
50% Exc	422	68,390	395	66,221	
75% Exc	360	63,385	319	60,332	
Sept					
25% Exc	440	69,822	398	66,472	
50% Exc	314	60,003	329	61,029	
75% Exc	231	55,464	236	55,689	
Oct					
25% Exc	282	57,987	301	59,146	
50% Exc	182	53,822	182	53,822	
75% Exc	125	52,847	126	52,903	
Total (mean)					
25% Exc		67,797		63,535	
50% Exc		62,629		59,751	
75% Exc		58,921		56,077	

Proposed Periodicity for Grant Creek Salmonids

[illegible]

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

January 27, 2015

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Preliminary Permit Application No. 2 Extension Request for Kenai Hydro, LLC - Grant Lake Project (FERC No. 13212)

Dear Secretary Bose:

Kenai Hydro, LLC (KHL) is submitting this letter as a formal request to extend its current Preliminary Permit (Permit) for the Grant Lake Hydroelectric Project (Project) by 10 months for the purposes of finalizing its Draft License Application (DLA), distributing for public review, revising accordingly and submitting a Final License Application (FLA) to the Federal Energy Regulatory Commission (FERC) for formal review. This extension (if approved) would allow the existing permit to expire on December 31, 2015.

To be very clear and up-front, KHL along with its consultant has fully developed and is currently reviewing an internal version of its DLA, the bulk of the contents of which have been discussed and collaborated on with requisite stakeholders throughout their development. Over the course of the three-year term of this existing Permit, KHL has made substantial progress in all facets of its licensing process.

As FERC likely recalls from previous consultation and filings, once the first preliminary permit was secured (2008), KHL elevated its scoping efforts, study program design and collaboration with stakeholders. After an initial study season in 2009 and associated consultation, it became clear, based upon stakeholder and public comment that the natural resource studies were not substantive enough to address all stakeholder concern related to resource impacts associated with Project development. As such, as opposed to holding a second year of studies in 2010, KHL chose to take the remainder of their initial Preliminary Permit timeframe to review all comments and redesign the study program to make is much more quantitative in nature. Completion of this exercise along with the securing of an appropriate team of consultants to carry out the newly designed and much more detailed study program resulted in the need for a second Preliminary Permit to complete study efforts.

Again, based on our consultation with FERC and associated filings, you are likely aware of the significant amount of work and progress that has been made associated with the second Permit term that was granted. We have completed a comprehensive and robust biological study program incorporating all resource areas (Aquatics, Water Quantity/Quality, Terrestrial, Recreation and Visual and Cultural). Every facet of the study program has been discussed, collaborated on and revised based upon stakeholder input and per the Traditional Licensing Process (TLP). Very early on, a series of work groups were created associated with the various

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

natural resource disciplines. These groups were utilized as the mechanism to develop appropriate study methods, discuss initial and final results, review associated resource reports and discuss potential impacts (positive and negative) and associated mitigation and enhancement measures that may be employed associated with Project construction and operations. More than ten formal meetings and Project-specific site visits, in addition to numerous calls with technical experts from our team and the stakeholders, have been held over the course of the current Permit term. All consultation, meeting minutes, presentations, comment matrices and final natural resource reports for all resource areas have been filed with FERC and are on the record for review.

From an engineering perspective over the term of the current Permit, KHL, in collaboration with their consultant and the stakeholders have carried out an extensive Project feasibility assessment. Initially, a variety of Project design and operational regimes were developed and assessed for feasibility. Based on those assessments, collaboration with stakeholders, an extensive amount of analysis and a high level of integration with natural resource results, a very viable Project design and operational regime has been developed. This design is not only conducive to KHL's financial requirements but also meets the requirements of a responsible Project by achieving an extremely low level impact to the existing environment overall and in the case of priority aquatic species, actually increases habitat value in many instances. Multiple technical memos assessing hydraulics, hydrology and operations have been developed and presented, a comprehensive operational model taking these factors into account along with various infrastructural components has been created and utilized in a collaborative fashion (internally and externally) and numerous stakeholder meetings including a multi-day workshop have been held to present findings and proposed infrastructural and operational preferences. These preferences have then been refined based upon comments received to create the agreed upon design and operational regime that has been incorporated into our DLA. All engineering meeting minutes, presentations and memos and reports have been filed with FERC and are on the record for review.

In addition to all of the progress described above, KHL held a public meeting in Moose Pass, Alaska in November of 2014 to present the comprehensive results of both the biological and engineering results, discuss the integration that has taken place to reach the current Project design and hear all input (pro and con) associated with Project development. All meeting minutes and presentational materials associated with the public meeting have been filed with FERC and are available for review.

The combined and integrated results from our biological and engineering studies indicate that the Project will have limited impact to the surrounding natural environment and in many priority aquatic instances, will actually increase habitat availability and associated fish production potential. This along with the suite of mitigation and enhancement measures proposed in our DLA, we believe, makes this Project a potential template for other low impact developments to follow in the future; both from a process and development perspective.

From a regulatory perspective, KHL has put in a tremendous amount of effort to create a culture that efficiently and effectively operates based on proactivity, collaboration and transparency. We have seen the benefit to this approach over the course of the Permit term. Every effort has been made from the outset to involve stakeholders in the process and incorporate their input to ensure

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

a comprehensive and acceptable feasibility assessment program. The collaboration that has taken place has been noteworthy and the stakeholder feedback we've received has been positive and appreciative with respect to the level of collaboration, communication and inclusion that has been carried out.

Exclusive of the fact that the results of our biological and engineering work indicate that the Project is extremely viable and worthy of a FERC license, KHL is very proud of what it has accomplished during this Permit term and respectfully requests that the 10-month extension be granted to complete the process and finalize a license application consistent with and representative of the extremely productive and positive process that has taken place.

Appended to this letter are two items:

- A. A historical schedule of the primary consultation (meetings, workshops, site visits, etc.) and significant milestones that took place during the Permit term and the associated final products that resulted.
- B. The anticipated schedule for the remaining components related to completion and filing of the FLA.

** It is important to note that this letter and the associated documentation of progress is meant for summary purposes only and is in no way intended to minimize or take the place of all analysis, documentation and collaboration that has actually occurred. Again, all of the reports and associated data, meeting minutes and presentations and associated collaboration over the term of the Permit have been filed with FERC and are available for review.*

Sincerely,



Mike Salzetti
Project Manager
Kenai Hydro, LLC
3977 Lake Street Homer,
AK 99603
(907) 283-2375

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

cc:

Regional Director
Portland Regional Office
Federal Energy Regulatory Commission
101 S. W. Main Street
Suite 905
Portland, OR 97204

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Appendix A

Historical Schedule of Primary Consultation and Document Development

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- ***December 12, 2012, Stakeholder Study Plan Meeting*** – All natural resource study plans distributed in advance of meeting for review. Presentations for each study plan given and associated questions/concerns discussed.
- ***January –March 2013, Permit Acquisition*** – All requisite permits acquired or extended from stakeholders for all resource study areas.
- ***March 25, 2013, Study Plans Filed*** – Final Grant Lake Natural Resource Study Plans filed with FERC after revision based upon stakeholder comment. Comment response matrix supplied to stakeholders along with final plans to document consultation and revision.
- ***March – November 2013, Study Season*** – The comprehensive set of natural resource studies documented in study plans were conducted. Areas included:
 - Aquatic Resources
 - Water quantity/quality
 - Terrestrial Resources
 - Recreational and Visual Resources
 - Cultural Resources
- ***April 3, 2013, Cultural Resources Area of Potential Effect Meeting*** – KHL holds a webinar/teleconference with all requisite cultural stakeholders to establish an appropriate Area of Potential Effect for the cultural studies to take place in 2013.
- ***September 5, 2013, Project Site Visit*** – KHL holds a stakeholder site visit during study season. Multiple resource agency members attend and view the entirety of the Grant Creek study area while study efforts are taking place.
- ***November 13, 2013, Iditarod National Historic Trail Reroute Meeting*** - KHL meets with stakeholders to formally begin discussions related to the appropriate protocol for gaining approval of a re-route of the currently unconstructed Iditarod National Historic Trail through the Project area.
- ***November 2013 – March 2014, Data Analysis and Report Preparation*** – KHL and contractor analyzes data collected from all resource areas and prepares draft study reports.

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- **March 19-21, 2014, Study Report Meetings** – KHL holds three days of meetings to present all study results from the respective resource areas, address all questions and concerns associated with the results and begin to collaborate on both perceived impacts (if any) and associated potential mitigation and enhancement opportunities. Initial engineering feasibility analysis is also presented during the proceedings.
- **April 2014, Instream Flow Workgroup Established** – In addition to the Aquatics Resource Workgroup and the Natural Resource Workgroup that had already been established, KHL forms the Instream Flow Workgroup to involve experts from the various agencies in an effort to further analyze the instream flow study data and establish collaboratively developed instream flow criteria for the Grant Creek bypass reach (Reach 5). Over the course of the spring and summer, KHL holds 6 group conference calls and a number of individual correspondences to reach agreement on an instream flow regime.
- **July 7, 2014, Engineering Workshop** – KHL holds an engineering workshop with stakeholders to present analysis, findings and revisions to the Project infrastructural plan and operational regime. A number of presentations and tech memos are given and distributed for review.
- **July 15, 2014, Commemorative Iditarod National Historic Trail Site Visit** – KHL holds a site visit with stakeholders to walk and assess both the currently planned route of the INHT and the KHL proposed re-route option developed and previously discussed as having a better user experience.
- **August 25, 2014, Study Reports Filed** - Final Grant Lake Natural Resource Study Reports filed with FERC after revision based upon stakeholder comment. Comment response matrix supplied to stakeholders along with final plans to document consultation and revision.
- **November 6, 2014, Public Meeting** – KHL holds a public meeting in Moose Pass, Alaska and gives a summary presentation documenting all natural resource and engineering study results along with describing proposed project infrastructure and operations.
- **November 2014 – Current, DLA Development** – KHL has developed an internal version of the Grant Lake DLA that is currently under review.

****Numerous other teleconferences, webinars and individual meetings were held with stakeholders during the permit term to discuss items particular to that entity and/or to address individual questions or concerns that developed during the process.***

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Appendix B

Anticipated KHL Schedule for the Remaining Components Related to Completion and Filing of the FLA

Kenai Hydro, LLC

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- ***April 30, 2015, DLA Filed with FERC and Distributed for Public Review***
- ***July 31, 2015, DLA Comment Period Concludes***
- ***August – December 2015, Public KHL Reviews Comments, Revises License Application and Prepares FLA***
- ***December 31, 2015, KHL Files Grant Lake Hydroelectric Project FLA with FERC***



From: Mouw, Jason E B (DFG) [mailto:jason.mouw@alaska.gov]

Sent: Wednesday, January 28, 2015 10:36 AM

To: Blum, John

Subject: RE: Expanded WUA curves for Grant Creek

Hi John,

This information is exactly what I was looking for, but there appears to be a discrepancy with the flows in Andre's final hydrology report. Specifically, the minimum flows reported for the 1948-2013 synthetic record (in the final hydrology report) exceed the median flows reported in your spreadsheet and elsewhere. I'm thinking the issue is in the hydrology report, because there is discrepancy in the minimum flows between the 1948-1958 and the 1948-2013 periods of record. The minimum in the 1948-2013 record is much higher than in the 1948-1958 record....and that shouldn't be, right?

I hate to ask for more of your time...could you have your team look at this? I'm hoping this is a quick fix.

Thanks,

Jason

From: Blum, John [mailto:Blum@mcmjac.com]

Sent: Tuesday, January 27, 2015 1:27 PM

To: Mouw, Jason E B (DFG)

Subject: RE: Expanded WUA curves for Grant Creek

You're welcome, Jason – happy to do it!

John

John Blum

Senior Fisheries Scientist

McMillen Jacobs Associates

112 Ohio Street Ste 117 | Bellingham, WA 98225

360.483.2807 p | 360.220.0694 c | Blum@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Mouw, Jason E B (DFG) [<mailto:jason.mouw@alaska.gov>]

Sent: Tuesday, January 27, 2015 2:19 PM

To: Blum, John

Cc: Warnock, Cory; Andersen, Emily

Subject: RE: Expanded WUA curves for Grant Creek

John,

This looks great. Thank you!

Jason

From: Blum, John [<mailto:Blum@mcmjac.com>]

Sent: Tuesday, January 27, 2015 12:41 PM

To: Mouw, Jason E B (DFG)

Cc: Warnock, Cory; Andersen, Emily; Blum, John

Subject: Expanded WUA curves for Grant Creek

Hi, Jason:

Per your request, I have rerun the hydrology to provide 25%, 50% (median), and 75% exceedance values for the 66 year composite record for Grant Creek. I did this for both the without-Project and with-Project scenarios. You had requested monthly time series; however, some life history periodicity reflected only partial months (for example, Chinook fry periodicity included only the last two weeks of May, while Chinook spawning periodicity was from Weeks 2 – 4 in August and the 1st week in September). In these instances I broke out only the pertinent data to reflect periodicity, and only used these data for WUA, with and without the Project.

The first page of the worksheet reflects the summary of flows for each listed time frame, as well as a periodicity table that worked for me to reflect those time periods. Also on the first worksheet are the 15 tables that summarize results for the species and life history stages that we modeled, as well as a final part of each table that gives the mean of each flow exceedance.

The second worksheet is the periodicity table as has been presented before; I used this for the periodicity that I showed on the first worksheet.

Let me know if you have any questions, or if I can provide any additional data, Jason. Have a good week!

John

Begin forwarded message:

Resent-From: <cory.warnock@mcmillen-llc.com>
From: "Salzetti, Mikel" <MSalzetti@HomerElectric.com>
Date: February 1, 2015 at 7:10:31 AM PST
To: "kkromrey@fs.fed.us" <kkromrey@fs.fed.us>
Cc: Cory Warnock <cory.warnock@mcmillen-llc.com>, "Gallagher, Joe" <JGallagher@HomerElectric.com>, "Ambrose, Harvey" <hambrose@HomerElectric.com>, "Janorschke, Brad" <bjanorschke@homerelectric.com>
Subject: Comment regarding the Mining Plan Near Grant Lake

Karen:

Homer Electric Association has the following comment regarding the Mining Plan Near Grant Lake:

Kenai Hydro(KHL), a wholly owned subsidiary of Homer Electric Association has an existing Federal Energy Regulatory Commission (FERC)Preliminary Permit (P-13212) in place to assess the feasibility of the development of a hydroelectric project in the Grant Lake/Grant Creek drainage. Over the past several years, KHL has conducted a comprehensive set of biological studies, done high level engineering feasibility work and collaborated extensively with State and Federal agencies as well as the local public. We are currently in the process of developing our FERC Draft License Application and intend to distribute that for review later this spring. That review and associated revision will culminate in a Final License Application being submitted to FERC later this year after which, we intend to design and construct the Grant Lake Hydroelectric Project. We have every intent of continuing to collaborate with requisite agencies and land managers both during the remaining phases of our licensing process and once a license is acquired. Given our priority to the site associated with our existing permit, we are also open to discussing other potential uses to the land within and near the project area if deemed to not be detrimental to the natural environment and our development and operation of the project.

I would appreciate an email response acknowledging receipt of this comment.

Regards,

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development

Homer Electric Association

-----Original Message-----

From: Salzetti, Mikel [mailto:MSalzetti@HomerElectric.com]

Sent: Friday, February 13, 2015 12:22 PM

To: Warnock, Cory

Subject: FW: Preliminary Decision of Land Conveyance for the Kenai Peninsula Borough Regions 2,3,6,7

FYI

-----Original Message-----

From: Hermon, Mary P (DNR) [mailto:mary.hermon@alaska.gov]

Sent: Monday, February 02, 2015 7:51 AM

To: Salzetti, Mikel

Subject: RE: Preliminary Decision of Land Conveyance for the Kenai Peninsula Borough Regions 2,3,6,7

Hi Mike,

I received your email and it will be responded to in the Final Finding and Decision. You will have access to that document after it is signed.

Thank you for your comments.

Mary Hermon

-----Original Message-----

From: Salzetti, Mikel [mailto:MSalzetti@HomerElectric.com]

Sent: Sunday, February 01, 2015 6:03 AM

To: Hermon, Mary P (DNR)

Cc: Cory Warnock; Gallagher, Joe; Ambrose, Harvey; Janorschke, Brad

Subject: Preliminary Decision of Land Conveyance for the Kenai Peninsula Borough Regions 2,3,6,7

Mary:

Homer Electric Association has the following comment regarding the Preliminary Decision of Land Conveyance for the Kenai Peninsula Borough Regions 2,3,6,7:

Kenai Hydro(KHL), a wholly owned subsidiary of Homer Electric Association has an existing Federal Energy Regulatory Commission (FERC)Preliminary Permit (P-13212) in place to assess the feasibility of the development of a hydroelectric project in the Grant Lake/Grant Creek drainage. Over the past several years, KHL has conducted a comprehensive set of biological studies, done high level engineering feasibility work and collaborated extensively with State and Federal agencies as well as the local public. We are currently in the process of developing our FERC Draft License Application and intend to distribute that for review later this spring. That review and associated revision will culminate in a Final License Application being submitted to FERC later this year after which, we intend to design and construct the Grant Lake Hydroelectric Project. We have every intent of continuing to collaborate with requisite agencies and land managers both during the remaining phases of our licensing process and once a license is acquired. Given our priority to the site associated with our existing permit, we are also open to discussing other potential uses to the land within and near the project area if deemed to not be detrimental to the natural environment and our development and operation of the project.

I would appreciate an email response acknowledging receipt of this comment.

Regards,

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development

Homer Electric Association

From: Warnock, Cory
Sent: Monday, February 02, 2015 12:29 PM
To: ilindquist@fs.fed.us
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Grant Lake Project

Hi Irene,

Mike Salzetti forwarded me your recent email inquiring about the timeline for distribution of the Grant Lake Project Draft License Application (DLA). We are currently working on it and have a full draft developed that is going through our internal vetting and qa/qc process. Once that is complete and associated revisions are made, we will be distributing for public review per the FERC process. Our current plan is to have it distributed by the end of April.

Happy to answer any further questions you may have,

Cory

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Michael Yarborough <salvagerecovery@gmail.com>
Sent: Friday, February 06, 2015 4:04 PM
To: Judy Bittner; Frank Winchell; Sherry D Nelson; Lesli Schick; Dara Glass; Mark Luttrell
Cc: Duvall, Shina A (DNR)
Subject: Grant Lake Final Cultural Resources Report and Findings letter

All

In the mail today to each of you is a CD with PDFs of the findings letter and final cultural resources report for the Grand Lake Hydro Project. Please let me know if you do not receive your copy early next week. Also please call or email if you have trouble opening the files.

Thank you for your continued participation in the consultation for this project.

Mike

--

Michael R. Yarborough
Senior Archeologist
Cultural Resource Consultants LLC
3504 E. 67th Avenue
Anchorage, Alaska 99507
Anchorage: (907) 349-3445
Cell: (907) 306-6069

NOTE: Because of the potentially sensitive nature of the information regarding Cultural Resources, the letter of concurrence and Cultural Resources Study, Final Report are not being distributed to the general public. These documents may be obtained by request to Homer Electric Association (HEA) or Federal Energy Regulatory Commission (FERC), subject to confidentiality provisions.

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail/One-on-One Meeting Log

Contact Name: Jason Mouw

Agency/Organization: Alaska Department of Fish and Game

Phone No./E-mail Address: jason.mouw@alaska.gov; 907-717-5740

Date: February 9, 2015

Time: 9:13 PST

Grant Lake Licensing Team Contact:

John Blum

Summary of Conversation and/or E-mail Exchange:

I had provided Jason with information re: the 25%, 50% and 75% exceedance flow values for the proposed Grant Lake Hydroelectric Project. I analyzed flows both without the project and with the project in place, for the monthly or appropriate step for all life history stages modeled in Grant Creek.

Jason reviewed the information and was confused that the data did not seem to line up with the hydrology report. A discrepancy he noted was in the minimum flows between the 1948-1958 period of record and the 1948-2013 period of record (without project). For example, the minimum flow shown in the 1948-2013 record is much higher than in the 1948-1958 record and wondered how that could be.

I looked at all the data, and the discrepancy was that the 1948-1958 record only included 10 years of data, while the 1948 – 2013 record included 66 years of data. In addition, the “minimum” values shown in the tables were not the minimum flows on record for that month, but rather the minimum average daily flow value for the monthly time step.

I explained this to Jason, and he requested that I also include the absolute minimum and maximum for each monthly time step.

I provided Jason two tables (1948-1958 and 1948-2013) that not only included the average daily minimum and maximum flow values for each month, but also the absolute minimum and

maximum for each monthly time step. This was provided to Jason via email on February 9, 2015 @ 12:34 pm.



From: Blum, John
Sent: Monday, February 09, 2015 12:34 PM
To: 'Jason Mouw (jason.mouw@alaska.gov)'
Subject: Grant Creek Hydrology

Hi, Jason:

Good to talk with you this morning, and glad you had a good vacation last week! Glad to hear your boys are living the Alaska experience – I'd still lean towards Hawaii over heading north out of Anchorage to have a winter vacation!

As we discussed, I went through every piece of data that Andre had in the hydrology report and it is correct. The difference is that, in the composite table (1948 – 2013 and the 1948 – 1958 analyses), the minimum and maximum values are the average values for a given day, but are not the absolute minimum and maximum flows for each day in the record. (For example, in the minimum value for January in the 1948 - 2013 summary table is 49 cfs. That is the minimum average *daily* discharge for January 30 and 31. However, the minimum value for the month of January is actually 12 cfs, which occurred on January 29, 1949).

I've taken the tables that summarized 1948 – 1958, as well as the 1948-2013 without project record, and summarized the results. You'll notice that the Mean, Min and Max lines are the same as in the hydrology report. I clarified Min by calling it Min (average daily) and Max (Average Daily).

I then added two more rows: Absolute Min, and Absolute Max. These went into the data sets and picked out the daily min and max value from the appropriate data set. You'll notice that some of the absolute minima and maxima were derived from the 1948-1958 data set; others came from the larger, more robust 1948-2013 composite hydrology.

Hope this helps. Give me a call if you have any more questions.

Thanks –

John

John Blum

Senior Fisheries Scientist

McMillen Jacobs Associates

112 Ohio Street Ste 117 | Bellingham, WA 98225

360.483.2807 p | 360.220.0694 c | Blum@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

Grant Creek Average Daily Flows WY 1948 - 1958

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	34	25	21	21	59	278	529	480	386	198	153	117
2	33	26	21	21	62	298	515	480	393	192	145	108
3	33	25	21	21	64	322	520	473	459	186	141	98
4	32	25	21	21	68	349	522	456	463	205	134	81
5	32	24	21	21	71	363	516	452	455	218	124	73
6	33	24	20	21	76	368	540	465	401	248	117	69
7	32	24	20	22	81	385	551	471	351	242	115	63
8	33	23	20	22	86	409	541	460	324	235	114	59
9	33	23	20	22	88	417	532	447	305	228	105	57
10	33	23	20	23	92	417	549	436	304	212	106	56
11	32	23	20	23	103	410	566	426	305	198	107	51
12	32	24	20	24	111	405	554	429	351	184	104	49
13	32	23	20	24	125	396	548	439	363	177	101	47
14	32	23	20	25	135	384	548	466	337	174	94	46
15	31	23	20	26	144	377	533	470	317	173	90	44
16	29	23	19	27	153	389	530	434	292	178	85	43
17	29	23	19	28	157	397	530	410	278	160	83	42
18	29	23	19	29	165	426	518	385	271	158	80	42
19	31	23	19	32	172	460	506	364	268	170	76	42
20	30	23	19	35	185	488	496	364	259	165	86	44
21	30	23	19	38	196	539	492	369	254	154	107	51
22	29	23	19	38	205	549	497	375	250	165	127	49
23	29	23	19	39	211	554	507	378	240	176	154	50
24	29	23	19	41	217	527	526	378	250	170	165	51
25	30	23	19	40	222	562	513	376	258	162	158	48
26	31	23	19	41	230	587	490	370	257	167	140	46
27	31	22	19	42	241	604	490	363	250	164	130	44
28	30	22	19	46	245	611	490	370	245	157	136	42
29	29	21	19	51	244	602	475	358	228	164	152	40
30	28		19	55	246	571	459	336	214	160	134	39
31	28		19		259		468	329		156		37
Mean	31	23	20	31	152	448	518	413	311	184	119	56
Min (Avg daily)	28	21	19	21	59	278	459	329	214	154	76	37
Max (Avg daily)	34	26	21	55	259	611	566	480	463	248	165	117
Abs. Min	12	11	12	13	17	112	272	173	65	45	28	18
Abs. Max	83	48	33	160	460	2,140	1,210	933	1,500	740	700	500

Grant Creek Average Daily Flows, Calendar Years 1948-2013

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	57	47	37	30	58	290	489	489	392	281	170	102
2	56	47	37	30	61	300	488	487	383	284	164	101
3	56	47	36	30	65	309	488	484	386	282	163	100
4	55	46	36	30	68	319	488	484	382	282	158	96
5	54	47	36	30	72	328	489	484	374	278	153	92
6	54	47	35	30	76	336	496	485	365	282	150	88
7	53	47	35	30	80	347	505	482	358	284	148	84
8	53	46	34	30	84	360	508	476	350	281	145	80
9	52	46	34	30	88	371	510	470	344	275	139	78
10	52	45	34	31	93	379	514	469	341	272	137	76
11	51	45	34	31	99	386	517	469	339	273	133	74
12	50	44	33	31	105	391	518	467	344	270	128	72
13	50	44	33	32	113	393	519	464	348	267	123	71
14	50	43	33	32	121	394	520	466	349	260	120	69
15	50	42	33	33	129	397	515	466	350	249	117	69
16	50	42	32	33	137	406	511	455	356	236	117	68
17	51	41	32	34	143	417	509	447	362	223	114	67
18	51	41	32	34	150	432	506	435	373	212	108	66
19	53	40	32	35	158	444	502	427	386	204	103	65
20	53	40	32	36	166	454	500	423	399	196	101	65
21	53	40	32	38	173	464	499	420	413	188	102	66
22	53	39	31	39	181	467	500	420	418	187	103	66
23	53	39	31	40	189	469	501	417	412	191	108	65
24	53	39	31	41	199	466	504	412	398	194	110	65
25	53	39	31	42	208	474	503	407	385	193	107	64
26	53	38	31	44	218	481	498	403	366	190	103	63
27	53	38	30	46	230	488	497	400	348	184	100	62
28	52	38	30	49	241	494	495	396	333	178	101	61
29	51	37	30	52	251	497	492	390	315	179	103	60
30	49		30	55	263	494	489	384	298	178	103	59
31	49		30		277		489	385		177		58
Mean	52	43	33	36	145	408	502	444	366	233	124	73
Min (Avg daily)	49	37	30	30	58	290	488	384	298	177	100	58
Max (Avg daily)	57	47	37	55	277	497	520	489	418	284	170	102
Abs. Min	12	11	6	13	17	102	210	173	65	45	28	18
Abs. Max	326	227	116	160	566	2,140	1,210	1,383	1,731	1,295	851	570

From: Whiton, Barb
Sent: Wednesday, February 18, 2015 3:14 PM
To: patricia.berkhahn@alaska.gov; Jason.mouw@alaska.gov; judy.bittner@alaska.gov; shina.duvall@alaska.gov; Kimberly.sager@alaska.gov; lesli.schick@alaska.gov; kkeller@blm.gov; dglass@ciri.com; kenneth.hogan@ferc.gov; frank.winchell@ferc.gov; rstovall@fs.fed.us; kvanmassenhove@fs.fed.us; Jeffry; snelson@fs.fed.us; edecleva@fs.fed.us
Cc: Andersen, Emily; Warnock, Cory
Subject: Grant Lake Project Draft License Application - Address info needed

Hi all,

I am currently working with the Kenai Hydro's Grant Lake Licensing Team to prepare a comprehensive list of individuals who will be receiving a hard copy of the upcoming Grant Lake Project Draft License Application (DLA) for the requisite review and public comment period. KHL will be distributing the DLA in a little over a month. If you are receiving this e-mail, we do not currently have adequate physical address information to provide you with a hard copy, and I would appreciate a response to me (not reply all) providing this information so that we can get the document to you in a timely fashion once it is complete and ready for distribution.

Thank you.

Barb Whiton

Senior Technical Writer/Editor

McMillen Jacobs Associates

12881 Eagle Dr | Burlington, WA 98233

360.853.5563 p | 360.333.1988 c | whiton@mcmjac.com

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NOTE: Because of the potentially sensitive nature of the information regarding Cultural Resources, the letter of concurrence and Cultural Resources Study, Final Report are not being distributed to the general public. These documents may be obtained by request to Homer Electric Association (HEA) or Federal Energy Regulatory Commission (FERC), subject to confidentiality provisions.



February 26, 2015

The Honorable Les Gara
State Capitol, Room 400
Juneau, AK 99801

Subject: Grant Lake Hydroelectric Project Questions

Dear Representative Gara:

I am writing in response to your email of February 13, 2015 regarding Grant Lake Hydroelectric Project.

All projects that the Alaska Energy Authority (AEA) funds are required to receive the necessary permits and licenses prior to construction. The Renewable Energy Fund grant application process restricts applicants to limited phases of development until prior phases are complete and prove the viability of the project. By issuing grants by phase, AEA assures reconnaissance and feasibility studies are conducted to prove the resource prior to permitting, final design, and construction.

In the case of Grant Lake hydro, earlier stages of reconnaissance and feasibility have been funded through the Renewable Energy Fund. For Round VIII, AEA recommended partial funding of \$358,000 (plus \$36,000 match by Kenai Hydro, LLC) contingent upon Kenai Hydro, LLC providing an AEA-approved feasibility report, conceptual design, and required supporting materials. If Round VIII funding is approved by the legislature this year and the conditions are met, the recommended Round VIII grant would be issued. AEA's partial funding would fund only geotechnical analysis.

Attached are additional answers provided by Homer Electric Association (HEA). Please contact me if you have any questions.

Sincerely,

Sara Fisher-Goad
Executive Director

Attachments: HEA response to Rep. Gara
HEA response to Letter from Kenai River Watershed Foundation

cc: Robert Ruffner, Kenai River Watershed Forum
Brad Janorschke, Homer Electric Association

Dear Director Fisher-Goad:

I offer the following responses to Representative Les Gara's inquiry:

Grant Creek holds an important run of Kenai Kings, other watershed salmon, and Kenai River drainage Rainbow Trout, Dollies and Grayling. It is an important fishery and an important spawning tributary.

In 2013 Kenai Hydro LLC (KHL), a wholly owned subsidiary of Homer Electric Association (HEA), conducted an extensive aquatics study program on Grant Creek. As part of the study program a weir was installed in Grant Creek so that every adult fish going into and out of Grant Creek could be cataloged. The results of the weir count for adult salmon appear in the table below.

Species	Upstream Passage	Downstream Passage	Net Passage
Pink Salmon	12	2	10
Chinook Salmon	35	12	23
Sockeye Salmon	1,153	36	1,117
Coho Salmon	239	2	237
Total	1,439	52	1,387

The study data along with our extensive project operational analysis and modeling indicates that with no mitigation measures in place, the proposed Project maintains 99.8% of the current aquatic habitat. This is accomplished by keeping additional high quality winter habitat wetted that is normally dry in the reduced flows of winter under natural conditions and by mitigating natural peak summer flows that adversely impact habitat. Combining the Project's ability to regulate seasonal flows with the proposed mitigation measures set forth in our Draft License Application (DLA); will actually provide more fish habitat than currently exists without the project. It is important to note that our study results and associated collaborative analysis document this positive project effect. The Grant Lake Project is quite remarkable in that, it can result in no net negative impact to the aquatic habitat and still provide a long term source of renewable energy to Alaskans.

First, I would like to know the location of the proposed dam, whether it blocks any fish passage, and its effect on water levels.

There is no dam associated with this project. Additionally, there is a series of large waterfalls that provide a natural anadromous barrier to fish passage into Grant Lake. The proposed project would draw water from an intake structure in Grant Lake, run it through a tunnel to the powerhouse located approximately half a mile downstream. This high gradient half-mile section coincides with documented low quality habitat for aquatic species in the creek. All water used for power production would be returned to the system upstream of the lower half-mile to maintain the priority habitat on the creek. While the project does significantly reduce the flows in the canyon reach (upper half-mile) of the stream, KHL has worked extensively with Stakeholders and Governmental Agencies to establish a seasonally dependent bypass flow in this part of the stream that maintains connectivity of the stream for most fish species and provides higher flows during priority (spawning) periods of the year. As mentioned above, the proposed project maintains the overall amount of fish habitat currently available on Grant Creek.

Second, I would like to see any fisheries impact studies on this project.

The following reports were provided to the Alaska Energy Authority in fulfillment of Grant Agreement #7040035. These reports can be accessed at the KHL website at www.kenaihydro.com. These

documents were also filed with the Federal Energy Regulatory Commission (FERC) and can be accessed at ferc.gov as well. In addition, KHL will be filing it's DLA with FERC and submitting it for public comment this spring. This comprehensive document contains summaries of all natural resource results (current and historical) along with discussions of environmental impacts and proposed mitigation and enhancement measures associated with project construction and operation.

Natural Resources Study Reports:

- Grant Lk Fisheries Assessment Final Report
- Grant Lk Geomorphology Final Report
- Grant Lk IFIM Final Report
- Grant Lk Macroinvertebrate Final Report
- Grant Lk RecVis Final Report
- Grant Lk Terr Final Report June
- Grant Lk WQ-Hydrology Final Report

Engineering Technical Memoranda:

- TM001-Grant Creek Hydrologic Analysis-Final
- TM002-Grant Creek Hydraulic Analysis-Final
- TM003-Grant Lake Hydroelectric Project Operations and Fisheries Habitat – Final

Additionally, the Alaska Power Authority, the predecessor to AEA, commissioned a detailed feasibility analysis of this resource in the early eighties that recommended development of this resource. This report also contains a significant body of fisheries data. I'm sure AEA can provide copies of these reports.

Lastly I am happy to meet with you when you are next in Anchorage to answer any questions that you may have.

I share the concerns stated in the attached Kenai Watershed Forum (sic) letter, and question, with the high cost of energy in rural Alaska, why this application would be viewed as a priority. I am also very concerned about the fisheries impacts.

The attached letter is from Kenai River Watershed Foundation based out of a P.O. Box in Cooper Landing AK, not the Kenai River Watershed Forum headquartered in Soldotna, AK. Attached you will find a response to the many erroneous claims made in the letter by the Kenai River Watershed Foundation.

Sincerely,



Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development
Homer Electric Association
(907) 283-2375 work
(907) 398-5073 Mobile

KRWF

Kenai River Watershed Foundation, Inc. 907-595-2129

P.O. Box 815, Cooper Landing, Alaska 99572 kenailake@arctic.net

February 9, 2015

Representative Mike Hawker

Chair, Legislative Budget & Audit Committee (via Email)

Alaska State Capitol

120 E. 4th Street, Room 502

Juneau, Alaska 99801

Subject: Objection to Grant Lake Hydroelectric Grant, AEA REF Priority 38

Dear Chairman Hawker and Members:

The Kenai River Watershed Foundation (KRWF) is very strongly opposed to Alaska Energy Authority Renewable Energy Fund (REF) sponsorship of the Kenai Hydro LLC effort to establish a hydroelectric facility on Grant Lake and Creek, near Moose Pass. The KRWF is based in Cooper Landing and Moose Pass, serving to protect and defend the integrity of the Kenai River and its Watershed.

Kenai Hydro LLC (KHL) is a subsidiary of Homer Electric Association (HEA). In 2007 HEA joined a group of pyramided shell corporations extending off-shore to France, The scheme began using successive phony addresses in downtown Anchorage, one of them a vacant lot. Capitalization totally relied on soft funding by the Alaska Energy Authority.

Kenai Hydro LLC (KHL) was formed in April of 2008 as a joint venture between Homer Electric Association (HEA) and Alaska Wind Energy, an entity owned by CIRI, to evaluate and investigate low impact hydroelectric facilities. In October of 2009 Alaska Wind Energy withdrew from the partnership leaving Homer Electric as the sole owner of KHL. Both Alaska Wind Energy and HEA provided initial capital for the startup of KHL and HEA continues to provide significant capital (millions of dollars) to fund the project. These are the only entities ever involved in KHL and there have never been any foreign or off-shore entities involved in the project. Homer Electric Association is a non-profit electric cooperative serving its members with a business address in Homer Alaska since 1950. Homer Electric's address listed on all KHL operating agreements and business licenses has been and remains 3977 Lake Street, Homer, Alaska.

The original business plan was to establish four (4) closely-clustered hydroelectric facilities in the headwaters of the Kenai River. This would have heavily industrialized and irreversibly damaged the Kenai River Watershed with dams, reservoirs, tunnels, roads, power houses, and transmission lines. Integrity of the entire Kenai River was threatened.

Very strong opposition from KRWF and others in Homer, Kenai, Seward, and Anchorage reduced the shell corporations to one remaining entity--KHL/HEA, promoting Grant Lake and Creek

In response to HEA's Board of Directors desire for renewable energy generation for reasons of environmental stewardship and fuel diversification, HEA, through KHL, conducted an evaluation of potential low impact hydroelectric projects. It is standard project development practice to study a number of potential sites to determine the best candidate. As such, KHL conducted reconnaissance studies on Crescent Lake, Ptarmigan Lake, Falls Creek and Grant Lake. The reconnaissance studies considered environmental conditions, recreation, subsistence use, cultural and historic resources, land ownership, mining claims, water rights, energy generation, anticipated development costs and an economic evaluation of the proposed project. Based upon the results of this evaluation, agency input and public comments, the Grant Lake project was considered the most viable resource and selected for further evaluation.

This invasive proposal would not serve Homer Electric utility customers. Its small proposed 5MW output would theoretically be connected and sold on the southcentral power grid.

Simply not true. All energy from this project will serve Homer Electric members.

Justification of the recommended grant is defective for the following reasons.

1. KHL/HEA has not determined the technical feasibility of licensing for permitted development of a Grant Lake hydroelectric facility. The current AEA REF grant recommendation puts the cart before the horse, addressing construction design instead of basic feasibility.. A Federal Energy Regulatory Commission (FERC) construction license has not even been applied for.
2. A commitment to develop the hydroelectric facility does not yet exist. Without a commitment to perform by KHL/HEA, AEA is recommending venture capital on speculation that feasibility will be determined.
3. Strangely, the 2013 HEA Annual Report stated that Grant Lake studies have been completed. However, in 2014 KHL/HEA applied for a FERC study period extension to December 31, 2015, which conveniently coincided with an additional \$4,000,000 AEA REF grant application.
4. A critical observer might allege that KHL/HEA could simply be motivated to obtain soft additional AEA grants. If so, continuing a cash cow grant-based business plan is not consistent with Alaska's current budget crisis.

KHL will submit a FERC Draft License Application for a 90 public comment period in late March of this year. After evaluation of comments received, KHL will file a Final License Application (FLA) with FERC. Currently the anticipated date for filing a FLA is December of 2015. FERC can take 9 months to 2 years to rule on an FLA. Consistent with other AEA hydroelectric renewable energy grant recipients, KHL requested funding to assist with advancing final project engineering design and land acquisition permits during the FERC evaluation process. Without this approach the project schedule is significantly delayed.

HEA is proud of the quality science and engineering that has gone into the evaluation of this project and is extremely encouraged by the results of the studies. HEA is confident that it will receive a FERC license to construct the project. The Grant Lake Project can provide low impact renewable energy to Alaskans for generations to come. This project assists in meeting both HEA's internal goal of producing 22% of its power from renewable resources by 2018 and the State of Alaska's renewable energy goal to produce 50% of Alaska's electrical energy from renewable resources by 2025 as adopted by the State of Alaska and Legislature in 2010.

Please do not fund the KHL/HEA REF grant for Grant Lake and Creek.

Sincerely,

/s/ Robert L. (Bob) Baldwin, President

<kenailake@arctic.net>

c) 907.250.3913

cc; Representative Mike Chenault

Senator Peter Micciche

ALASKA STATE LEGISLATURE



REPRESENTATIVE LES GARA

February 13, 2015

Alaska Energy Authority
813 West Northern Lights Blvd.
Anchorage, Alaska 99503

Dear Director Fisher-Goad:

I am writing with concerns about the Grant Lake/Creek hydropower proposal, and have a few questions.

Grant Creek holds an important run of Kenai Kings, other watershed salmon, and Kenai River drainage Rainbow Trout, Dollies and Grayling. It is an important fishery and an important spawning tributary.

First, I would like to know the location of the proposed dam, whether it blocks any fish passage, and its effect on water levels.

Second, I would like to see any fisheries impact studies on this project.

I share the concerns stated in the attached Kanai Watershed Forum letter, and question, with the high cost of energy in rural Alaska, why this application would be viewed as a priority. I am also very concerned about the fisheries impacts.

Thank you,

A handwritten signature in black ink, appearing to read "Les Gara", with a long horizontal line extending to the right.

Les Gara

Cc: Robert Ruffner, Kenai River Watershed Forum

Bcc: Sam Cotten, Commissioner, Alaska Department of Fish and Game
Polly Carr, Executive Director, Alaska Center for the Environment
Kenai River Sport Fishing Association
Alaska Troufitters Fly Shop, Cooper Landing
Kenai River Professional Guide Association
Mike Brown, Mossy's Fly Shop

150 FERC ¶ 62,115
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Kenai Hydro, LLC

Project No. 13212-003

ORDER DENYING EXTENSION OF TERM FOR PRELIMINARY PERMIT

(Issued February 27, 2015)

1. On January 28, 2015, Kenai Hydro, LLC (Kenai Hydro) filed a timely application for a ten-month extension of its successive preliminary permit for the proposed Grant Lake Project (Project).¹ The proposed project would be located on Grant Lake and Creek, near the town of Moose Pass, in Kenai Peninsula Borough, Alaska. The project would occupy federal lands managed by the Chugach National Forest.

I. Background

2. On October 7, 2008, Kenai Hydro received its first preliminary permit for the Grant Lake Project.² On March 23, 2012, Kenai Hydro received its current preliminary permit, which will expire on February 28, 2015. In issuing this successive (second) preliminary permit, Commission staff considered Kenai Hydro's substantial progress toward filing a license application as evidenced by its filing of a Pre-Application Document and a Notice of Intent to file a license application using the Traditional Licensing Process; conducting comprehensive biological and engineering studies; and engaging in extensive consultation with state and federal resource agencies and local stakeholders.

3. On January 27, 2015, Kenai Hydro filed a timely request for a ten-month extension of its existing preliminary permit. On January 30, 2015, the Kenai River Watershed Foundation (KRWF) filed comments stating it objects to Kenai Hydro's request to extend its current preliminary permit because this permittee has held this site for six years over other potential applicants.

4. On February 11, 2015, the Center for Water Advocacy filed comments stating that it also objects to Kenai Hydro's request to extend its permit because it maintains that

¹ See 138 FERC ¶ 62,297 (2012).

² See 125 FERC ¶ 62,018 (2008).

the public has not been adequately included in the scoping process and because the applicant has collected only minimal streamflow data.

II. Discussion

5. Section 5(b) of the Federal Power Act, as amended by the Hydropower Regulatory Efficiency Act of 2013, gives the Commission the option to extend a preliminary permit term once for not more than two additional years if the Commission finds that the permittee has carried out activities under the permit in good faith and with reasonable diligence.³ It appears that, in giving the Commission the authority to extend the term of a preliminary permit *once, but for no more than an additional two years*, Congress recognized that three years may not always be enough time to develop and file a license application, but that five years should be sufficient.

6. The Commission has rarely authorized the reservation of a site under a preliminary permit for a period longer than six years to the same applicant, for the same site, unless the applicant can demonstrate that there is some extraordinary circumstance or factor outside its control that prevented it from making progress toward developing a license application.

7. Kenai Hydro has failed to meet that burden. After a review of its extension application and the record for Kenai Hydro's second preliminary permit, we find that there is no evidence of extraordinary circumstances or factors outside of its control during the duration of its permit that prevented it from filing a development application within the permit's three-year term. While Kenai Hydro has shown extensive progress toward the development of a license application, it has held permits for the site since October 2008. There is little doubt that allowing the site to be reserved to Kenai Hydro for more than seven years (i.e., extending the term of its second preliminary permit through December 2015) would constitute site banking.⁴

8. For the above reasons, Kenai Hydro's request to extend for ten months the term of its second preliminary permit for the Grant Lake Project is denied. We note, however, that the absence of a preliminary permit does not prevent Kenai Hydro from continuing to pursue development of the Grant Lake Project, since holding a permit is not a

³ Pub. L. No. 113-23, § 5, 127 Stat. 495 (codified as amended at 16 U.S.C. § 798(b)).

⁴ The essence of the Commission's policy against site banking is that an entity that is unwilling or unable to develop a site should not be permitted to maintain the exclusive right to develop it. See *Cascade Creek, LLC*, 140 FERC ¶ 61,221, at P 27 (2012) (citations omitted).

prerequisite to file a license application. In the event a complete application for a preliminary permit for the Grant Lake Project's site is filed before Kenai Hydro files its license application for the proposed Grant Lake Project, Kenai Hydro would be afforded an opportunity to file a notification of intent to file a license application in competition with that permit application.⁵

The Director Orders:

- (A) Kenai Hydro's request to extend by ten months the term of its preliminary permit for the Grant Lake Hydropower Project No. 13212 is denied.
- (B) This order is issued under authority delegated to the Director and constitutes final agency action. Any party may file a request for rehearing of this order within 30 days of the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 825l (2012), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2014).

Timothy Konnert, Chief
West Branch
Division of Hydropower Licensing

⁵ See 18 C.F.R. § 4.36(b) and (c) (2014).



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Griffin, David W (DNR) [mailto:david.griffin@alaska.gov]
Sent: Monday, March 02, 2015 11:39 AM
To: Salzetti, Mikel
Cc: Thomas, Ryan J (DNR); Longan, Sara W (DNR); Cory Warnock
Subject: RE: Grant Lake Hydro - DNR MOU?

Thanks Mike, we appreciate the response, and look forward to hearing how things progress.

David Griffin
(907) 269-8696
david.griffin@alaska.gov

Special Assistant to the Director
Director's Office
Division of Parks and Outdoor Recreation
Department of Natural Resources
550 West 7th Ave., Suite 1380
Anchorage, AK 99501

From: Salzetti, Mikel [mailto:MSalzetti@HomerElectric.com]
Sent: Saturday, February 28, 2015 12:26 PM
To: Griffin, David W (DNR)

Cc: Thomas, Ryan J (DNR); Longan, Sara W (DNR); Cory Warnock

Subject: RE: Grant Lake Hydro - DNR MOU?

David:

I wanted to get back to you regarding the email you sent on November 11, 2014 (see below). As you know, we have been diligently working away on a Draft License Application (DLA) and associated management plans, BE's, etc. since we last spoke at the public meeting in Moose Pass. I've been holding off on a response to your email pending a final decision on the land selected by the Kenai Peninsula Borough associated with the recent municipal land entitlement selection request because all of the proposed project facilities are located on requested land. It would appear from the recently issued final decision that some of the land that the project will reside upon, if licensed, will remain in state hands. I will be sure to contact Director Longan regarding permitting and project management if FERC grants HEA a license to construct the project. Currently we anticipate the issuance of a FERC license to construct in Early 2017.

Thanks and let me know if you'd like to discuss further,

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development

(907) 283-2375 *work*

(907) 398-5073 *Mobile*

From: Griffin, David W (DNR) [<mailto:david.griffin@alaska.gov>]

Sent: Monday, November 10, 2014 2:01 PM

To: Cory Warnock; Salzetti, Mikel

Cc: Thomas, Ryan J (DNR); Longan, Sara W (DNR)

Subject: Grant Lake Hydro - DNR MOU?

Cory and Mike,

Hi, just following up regarding the discussion I had with you during the meeting in Moose Pass last week (Nov. 6). In that discussion I mentioned that it would be in the interest of Kenai Hydro to develop an MOU with the Dept. of Natural Resources in order to give the Grant Lake Hydro project the attention that it deserves.

As this project moves into the licensing phase additional needs will surely be required of DNR staff, both from the Division of Parks and Outdoor Recreation and the Division of Mining, Land and Water. The project will surely require additional permitting for activities above and beyond what was required during the feasibility phase – activities such as seismic, geophysical explorations, etc; and if successful, permitting and oversight of construction.

Since the project area encompasses state land managed by the Division of Parks and Outdoor Recreation, we will be tasked with defining what is/isn't considered compatible uses on these lands; and certain administrative actions may need to take place to address the roles and responsibilities of the land owners. There may also be a need to revise the Kenai Area Plan, and the Kenai River Comprehensive Management Plan to reclassify the lands in the project area (a process that will likely require thorough public review).

I would like for you to contact the DNR Office of Project Management and Permitting, specifically the Executive Director, Sara Longan. Her office specializes in the coordination of large projects for the state – hydroelectric, mining, oil/gas, roads, etc. Sara can better explain how her office can best assist you, she can be reached at (907) 269-8732, or by email: sara.longan@alaska.gov.

Thank you,

David Griffin
(907) 269-8696
david.griffin@alaska.gov

Special Assistant to the Director
Director's Office
Division of Parks and Outdoor Recreation
Department of Natural Resources
550 West 7th Ave., Suite 1380
Anchorage, AK 99501

From: Toyia Johnson <Toyia.Johnson@ferc.gov> on behalf of FOIA-CEII <FOIA-CEII@ferc.gov>
Sent: Monday, March 09, 2015 3:11 PM
To: Warnock, Cory
Cc: 'Mike Salzetti'; Andersen, Emily; FOIA-CEII
Subject: CONFIRMATION OF RECEIPT: Comments Related to Submitter Rights Letter, FOIA No. FY15-52

Hello

The Federal Energy Regulatory Commission received your comments regarding Freedom of Information Act, FOIA-2015-52.

We appreciate your prompt response regarding this matter.

Sincerely,

Toyia Johnson

Toyia Johnson
[Federal Energy Regulatory Commission](#)
Office of External Affairs
FOIA Public Liaison
Phone: (202) 502-8389 / Toll Free: 1-866-208-3372
Email: foia-ceii@ferc.gov
Online FOIA & CEII request forms: <http://www.ferc.gov/legal/ceii-foia.asp>

NOTICE: This email message and any attachments are for the sole use of the intended recipients and may contain information that is classified as privileged, CEII or otherwise protected from disclosure. Any unauthorized review, use, disclosure or distribution is strictly prohibited. If you are not the intended recipient, please contact the sender by reply email and delete the original message and attachments from your computer and other electronic devices.

From: Warnock, Cory <Warnock@mcmjac.com>
Sent: Monday, March 9, 2015 3:27 PM
To: FOIA-CEII
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Comments Related to Submitter Rights Letter, FOIA No. FY15-52

Hello,

My name is Cory Warnock and I am the consulting Project Manager for the proposed Grant Lake Hydroelectric Project (Project), P-13212. The comments below (and supplemental attachments) are being sent on behalf of Kenai Hydro, LLC (KHL), the proponent of the Project.

These comments are being sent in regard to Submitter's Rights Letter, FOIA No. FY15-52 from Mr. Robert Baldwin of the Kenai Watershed Foundation, Inc (attached). His request involved receiving a copy of the Grant Lake Cultural Resources

Final Report (P-13212) that was filed “Privileged” with FERC on 2/24/15. At this time based both upon existing state and federal law, KHL requests that the report maintain its status, and distribution beyond those with specific authority to view and comment on the document be prohibited from acquiring a copy. All of the site location information in our Cultural Resources report is now included in the Alaska Heritage Resources Survey (AHRS). Access to site-specific information from the AHRS is restricted or confidential. Restricted or confidential information is withheld from public records disclosure under state law (AS 40.25.110) and under the federal Freedom of Information Act (PL 89-554). Information about site inventory may be restricted pursuant to AS 40.25.120(a)(4), Alaska State Parks Policy and Procedure No. 50200, the National Historic Preservation Act (PL 89-665, 16 U.S.C. 470), and the Archaeological Resources Protection Act (PL 96-95). I have attached a copy of the AHRS Data Access Policies and Guidelines that explains these restrictions in more detail.

Happy to discuss in further detail if needed. Don’t hesitate to call or email.

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*



Kenai River Watershed Foundation, Inc.
P.O. Box 815, Cooper Landing, Alaska 99572

907-595-2129
kenailake@arctic.net

February 26, 2015

FOIA Liaison
Federal Energy Regulatory Commission
(by Email) <foia-ceii@ferc.gov>

Subject: Freedom of Information Act Request

Reference: Docket P-13212 Grant Lake Hydroelectric Project, Alaska

This request is for privileged FERC generated 11880810 pdf, dated Feb. 24, 2015, in Docket P-13212 (elibrary accession no. 20150224-5149), titled Grant Lk Cultural Resources Final Report Feb 2015, Part 1 and Part 2 pdf.

We agree to pay a fee of up to \$20.00 for this request. If the fee exceeds that amount, please inform us. However, a fee waiver is requested and believed to be justified by the following.

The purpose of this FOIA request is in the public interest to provide better understanding of FERC procedures and proceedings in the immediate area of project. KRWF is a non-profit community service organization. Ongoing public interest is well documented in Docket P-13212 filings. Non-commercial use of the requested material will be for public information purposes only.

Please send an electronic copy of the requested material by email attachment to:
<kenailake@arctic.net>

Sincerely,

/s/ Robert L. Baldwin, President
Kenai River Watershed Foundation, Inc.
P.O. Box 815; (33995 Williams Road)
Cooper Landing, AK 99572-0815
<kenailake@arctic.net>
c) 907.250.3913

ELIBRARY INDEX SHEET

Submittal	02/24/2015	P-13212-000	On behalf of Kenai Hydro,LLC,	Report/Form /
20150224-5149	02/24/2015		McMillen Jacobs Associates	Project
Document Components			hereby files the Final Grant Lake	Operations
			Cultural Resources Report and	Compliance
			associated findings letter under P-	Report
			13212.	
			Availability: Privileged	

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

MAR 6 - 2015

Re: Submitter's Rights Letter,
FOIA No. FY15-52

VIA ELECTRONIC MAILING

Brad Zubeck
Project Engineer
Kenai Hydro, LLC
280 Airport Way
Kenai, ALASKA 99611
bzubeck@homerelectric.com

Dear Mr. Zubeck:

3/2/15 11:44

Pursuant to the Freedom of Information Act (FOIA), 5 U.S.C. § 552 (2012) and the Federal Energy Regulatory Commission's (Commission) regulations, specifically 18 C.F.R. § 388.112(d) (2014), you are hereby notified that Mr. Robert Baldwin has filed the enclosed request seeking to obtain a copy of Grant Lake Cultural Resources Report under eLibrary accession No. 20150224-5149. The request is enclosed for your reference and review, along with an eLibrary search listing the documents.

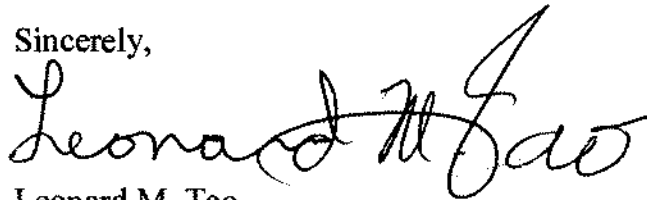
Because you have asserted a "privileged" interest in the information requested, we are soliciting your comments on whether its release is required under the FOIA. Your written comments are due within five (5) business days from the date of this letter, and should clearly explain whether it opposes the release of this document, or portions thereof, and the rationale for its position.

The Commission will not be persuaded by conclusory statements as to why the information deserves protection, and may construe a non-response as evidence that Transco does not object to releasing the document.

Your comments, if any, may be mailed to the undersigned at the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, D.C. 20426. Your comments may also be mailed electronically to the email address provided

below or facsimiled to (202) 208-2106. If you have has any questions regarding this matter, please contact Ms. Toyia Johnson of my staff by phone at (202) 502-6088 or e-mail to foia-ceii@ferc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Leonard M. Tao". The signature is fluid and cursive, with the first name "Leonard" being the most prominent.

Leonard M. Tao
Director
Office of External Affairs

Enclosure

cc: Robert Baldwin
Kenai River Watershed Foundation, Inc.
P.O. Box 815
33995 Williams Road
Cooper Landing, ALASKA 99572
akengr@hotmail.com

The Alaska Heritage Resources Survey

DATA ACCESS POLICIES AND GUIDELINES

1.0 Background:

The Alaska Heritage Resources Survey database (AHRs) is a restricted statewide inventory of Alaska's reported historic, prehistoric, and archaeological resources. The Alaska Department of Natural Resources, Office of History and Archaeology (OHA) maintain the inventory under the authority of AS 41.35.070(a). The fundamental purpose of the AHRs is to facilitate resource identification and evaluation for research, planning, protection and development. The AHRs is part of OHA's computerized Integrated Business Suite (IBS).

2.0 Data Limitations:

Sites listed in the AHRs are under the jurisdiction, ownership, or control of other entities, such as state and federal agencies, municipal governments, private individuals, and tribal organizations. These entities must authorize visits to sites under their management, and may place additional restrictions on the transmission of AHRs data related to such sites. The absence of AHRs information on cultural resources for a particular area does not necessarily indicate that no sites are present. It may reflect a lack of surveys to identify sites in that area, incomplete information, or unreported resource information. OHA does not guarantee the accuracy or completeness of AHRs records. Because the Alaska USGS base maps vary in accuracy, "on screen" site locations derived from GPS coordinates may appear visually inaccurate. AHRs data used for management decisions or planning should be interpreted by a cultural resource professional familiar with the data limitations.

3.0 Access and Legal Constraints:

To protect sensitive cultural sites against unauthorized disturbance, access to the AHRs database and related information that would put sites at risk (i.e., coordinates and maps or texts that depict precise locations of archaeological sites) is withheld from the general public. Restricted or confidential site information is withheld from public records disclosure under state law (AS 40.25.110) and under the federal Freedom of Information Act (PL 89-554). The restriction of site inventory information is allowed by AS 40.25.120(a)(4), Alaska State Parks Policy and Procedure No. 50200, the National Historic Preservation Act (PL 89-665, 16 U.S.C. 470), and the Archaeological Resources Protection Act (PL 96-95).

4.0 Guidelines for Use and Security of AHRs Data:

AHRs information that would put sites at risk shall not be included in public documents, including non-OHA permit applications, grant applications, and/or other documents for which public access cannot be restricted. When in doubt, the applicant should consult with OHA. Information such as coordinates and maps or text with explicit site locations: (a) shall be held in a secure place with restricted access; (b) shall be used for legitimate planning or scientific research; and (c) shall not be redistributed to those who have not signed an OHA IBS User Agreement, with the exception of those described in Section 4.1. IBS export data obtained under a Corporate / Agency IBS User Agreement shall be destroyed for completed projects or replaced with current data for ongoing projects prior to the renewal of user agreements.

4.1 Coordinates, maps and text that depict specific site locations may be made available to clients, agency employees, tribes and others involved in a particular project planning process, but should be marked "Restricted – Not for Public Distribution." Digital data exported from the IBS under a Corporate / Agency IBS User Agreement (i.e., shapefiles or other data sets suitable for populating a database) shall not be made available to those who have not signed an OHA IBS User Agreement, nor shall direct IBS access be made available. The locations of standing buildings and structures still in use are not subject to the protective measures in Sections 4.0 – 4.2.

4.2 Location maps used to illustrate the general presence of cultural sites, such as would be used in Environmental Impact Statements, management plans, and other documents available to the public, should be at such a scale and resolution so as to preclude the map's use for relocating individual sites in the field. OHA can provide advice or examples if needed.

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- 4.3** Because the IBS/AHRS is a dynamic system, archived data becomes obsolete as site records are created or updated. Archived digital data derived from direct IBS data exports, such as shapefiles and data used to populate databases or spreadsheets, should be purged minimally on an annual basis to insure that the use of old data for planning or management does not put sites at risk. These types of data are normally only available to Corporate / Agency users. The use of the IBS, rather than static databases populated with exported data, will insure that site data are the most current. The Section 4.0 requirement for Corporate / Agency users to destroy export data does not apply to data that are archived as part of a project file. Archived data that would put sites at risk, such as location coordinates and text providing explicit locations, still must be held in a secure place with restricted access, as required by Section 4.0 (a)

5.0 Statement of Access Policies:

OHA restricts AHRS access to users with a legitimate need for the information. Authorized users are limited to representatives of federal, state, local, or tribal governments on official business, scientific researchers, and qualified representatives of cultural resource management firms conducting investigations that will contribute to resource protection. Because the interpretation of AHRS data requires familiarization with the resource and data limitations, OHA restricts non-agency AHRS access to cultural resource professionals who meet qualification standards. The Chief of OHA may grant waivers for AHRS access to individuals who do not meet these standards if: (1) access is believed to be in the best interest of protecting or managing the resource; and/or (2) the land or resource manager supports AHRS access; and/or (3) the requesting individual has an established history of legitimate AHRS use and/or cultural resource management. OHA may also limit users to certain types of data, type of access (remote or in-house), or to data for a particular geographic area. Corporate Agreement holders may request raw data exports for use with their own GIS software. OHA may grant IBS editing privileges to users who plan to enter or update AHRS records.

6.0 Guidelines for IBS/AHRS Access:

6.1 Agency users

(including federal, state, and local governments, as well as tribes) may access the AHRS and related data sets if they (1) are on official business and access is project-related, (2) present a current agency business card or ID, (3) have attended an OHA IBS training course, and (4) complete an OHA IBS User Agreement.

6.2 Non-agency users

(including but not limited to representatives of universities, historical societies, tribal consortiums and tribal nonprofits) may access the AHRS and related data sets if they (1) demonstrate a legitimate business or research need, (2) have attended an OHA AHRS training course, (3) submit proof of completion of a B.S. or B.A. degree in archaeology, anthropology, architectural history, history, or historic preservation, and, (4) complete an AHRS User Agreement.

6.3 Corporate / large-scale agency users

who desire AHRS data exports for use in their own GIS systems or need sustained access to large geographic areas must (1) demonstrate a legitimate business or research need for control of large blocks of data, (2) submit a Corporate / Agency Information Use Agreement signed by a corporate officer or senior agency official, and (3) insure that individual users each complete an OHA IBS User Agreement. Terms of access for specific projects may be defined or modified through the execution of a Programmatic Agreement (PA) or Memorandum of Agreement (MOA) signed by the Chief of the Office of History and Archaeology in lieu of a Corporate Agreement.

Corporate / Agency User Agreements are designed to be completed by a corporate officer or senior agency official, with or without cultural resource training, who is applying for access to the Alaska Heritage Resources Survey (AHRS) database on behalf of the group as a whole. Each individual user within the group must complete an IBS User Agreement. The Corporate/ Agency User Agreement provides for a higher level of access, to include data exports, for which a higher level of accountability is required. By signing a Corporate / Agency User Agreement, the senior official acknowledges the sensitivity of data such as coordinates and shapefiles, and is thus able to direct employees to handle the data in a manner consistent with OHA policy.

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6.4 Applicants who fall outside the above categories

Waivers are available on a case by case basis under special circumstances if the applicant (1) demonstrates a legitimate business or research need, (2) obtain a signed waiver from the Chief of OHA, (3) have attended an OHA IBS training course, and (4) complete an OHA IBS User Agreement.

7.0 OHA retains the right to:

- 7.1** Determine legitimate needs (i.e., resource protection or scientific research);
- 7.2** Place restrictions on the dissemination of information obtained from the AHRS;
- 7.3** Determine which data fields will be made available to users;
- 7.4** Restrict user access to select modules within the OHA IBS;
- 7.5** Limit access to records in or near the project's Area of Potential Effect (APE);
- 7.6** Set an expiration date for user agreement documents (normally within 1 year or less);
- 7.7** Require applicant to provide written land owner permissions prior to data releases;
- 7.8** Request project information and end date(s);
- 7.9** Request a signed "Certification of Data Destruction" form from recipients of data exports;
- 7.10** Terminate a User Agreement at any time; and
- 7.11** Decline to renew access if prior agreement terms have not been met.

8.0 Access:

8.1 In House Access

available to authorized users at the OHA office at 550 W. 7th Ave., Suite 1310 during posted AHRS business hours or by appointment (907-269-8718). Due to the learning curve, it is recommended that users who do not regularly use AHRS come into the office to take advantage of staff support.

8.2 Remote Access (Log In)

available to authorized users. Due to the learning curve, remote access will generally be made available only to those who use the AHRS regularly (at least two times per month), or when circumstances necessitate remote access.

8.0 Litigation Disclosure Form:

In keeping with the policy of other DNR Sections, OHA requires the completion of a "Litigation Disclosure Form." The form is typically required at the time of User Agreement Form submittals or annual renewals, but may be required for individual projects as circumstances warrant. The intent of the Litigation Disclosure Form is to prohibit the disclosure of records to be used for litigation against the State to a party involved in the litigation unless applicable court rules have been followed (AS 40.25.122).



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Natural Resources
DIVISION OF PARKS AND OUTDOOR RECREATION
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March 10, 2015

File No.: 3130-1R FERC / 2015-00229
3330-6 SEW-00029, 3330-6 SEW-00148, 3330-6 SEW-00285, 3330-6 SEW-01455,
3330-6 SEW-00659, 3330-6 SEW-01454, 3330-6 SEW-01522, 3330-6 SEW-00823
3330-6P SEW-01521
3330-6N SEW-01515, 3330-6N SEW-01516, 3330-6N SEW-01517, 3330-6N SEW-
01518, 3330-6N SEW-01519, 3330-6N SEW-01520, 3330-6N SEW-01144, 3330-6N
SEW-01523, 3330-6N SEW-01524, 3330-6N SEW-01525, 3330-6N SEW-01526, 3330-
6N SEW-00822, 3330-6N SEW-00768, 3330-6N SEW-01527, and 3330-6N SEW-
01528.

Mike Salzetti
Kenai Hydro, LLC
3977 Lake Street
Homer, Alaska 99603-7680

Subject: Grant Lake Hydro Project, FERC No. 13212

Dear Mr. Salzetti:

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated February 6, 2015) on February 9, 2015.

Following our review of the documentation provided, offer the following comments:

- We concur that the following sites are **eligible** for the National Register of Historic Places (NRHP): SEW-00029, SEW-00148, SEW-00285, SEW-01455, SEW-00659, SEW-01454, SEW-01522, and SEW-00823.
- We concur that the following sites contribute to the Case Mine District (SEW-00659): SEW-01454, SEW-01522, and SEW-00823.
- We concur with the recommendations made regarding contributing and non-contributing status for the other features identified at the Case Mine District (but not assigned individual AHRS numbers).
- We concur that additional information is needed to assess the integrity of the Sawmill-Upper Trail Lake Trail (SEW-01521).
- We concur that the following sites are **not eligible** for the NRHP: SEW-01515, SEW-01516, SEW-01517, SEW-01518, SEW-01519, SEW-01520, SEW-01144, SEW-01523, SEW-01524, SEW-01525, SEW-01526, SEW-00822, SEW-00768, SEW-01527, and SEW-01528.
- We concur that the Commemorative Iditarod Trail in the APE does not meet the requirements for eligibility to the NRHP.
- We concur that an overall project finding of **adverse effect** is appropriate. We typically recommend that one finding of effect be applied to the undertaking as a whole, while understanding that some elements of the project will result in adverse effects and other elements may not.

As stipulated in 36 CFR 800.3, other consulting parties such as the local government and Tribes are required to be notified of the undertaking. Additional information provided by the local government, Tribes or other consulting parties may cause our office to re-evaluate our comments and recommendations. Receipt of our comment letter does not end the 30-day review period provided to other consulting parties.

We look forward to continued consultation with Kenai Hydro, LLC, FERC, and other consulting parties on the subject undertaking and to developing a Memorandum of Agreement (MOA) that would formally stipulate measures to resolve adverse effects. Please note that the agency official shall notify the Advisory Council of the adverse effect finding (36 CFR 800.6[a][1]).

Thank you for the opportunity to comment. We look forward to continued consultation on the subject project. Please contact Shina duVall at 269-8720 or shina.duvall@alaska.gov if you have any questions or if we can be of further assistance.

Sincerely,



Judith E. Bittner
State Historic Preservation Officer

JEB:sad

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

ELECTRONICALLY FILED

March 27, 2015

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: Draft License Application for Kenai Hydro, LLC - Grant Lake Hydroelectric Project (FERC No. 13212)

Dear Secretary Bose:

Kenai Hydro, LLC (KHL) hereby submits its Draft License Application (DLA) pursuant to 18 C.F.R. § 5.16 for the proposed Grant Lake Hydroelectric Project (FERC No. 13212) (the "Project").

The proposed Project would be located near the city of Moose Pass, Alaska, on Grant Creek and have an installed capacity of 5.0 megawatts (MW). KHL is proud of the quality science and engineering that has gone into the evaluation of this project and is extremely encouraged by the results and collaboration that has taken place during the licensing process. Our extensive record and associated filings of reports, numerous meetings minutes, comment responses, presentations, etc. speak to this and are directly reflective of our commitment to operate the Project in an environmentally conscious and dependably efficient manner consistent with all requirements put forth in a FERC license order.

On January 27, 2015, KHL filed a timely request for an extension of the Project Preliminary Permit. On February 27, 2015, FERC issued order denying the extension of the term of the preliminary permit. On March 27, 2015, KHL filed a request for rehearing on the order denying the 10 month preliminary permit extension. This DLA further demonstrates the significant progress KHL has made toward Project development.

The entire DLA submittal is being e-filed, as specified below.

Volume	Security Designation	Content
Volume 1	Public	• Initial Statement • Exhibit A • Exhibit B • Exhibit C • Exhibit D • Exhibit E, attachments: ○ Attachment E-1, consultation record and documentation ○ Attachment E-2, Aquatic Mapping and Instream Flow Study, Addendum ○ Attachment E-3, Terrestrial Resources Study, Final Report Addendum • Exhibit F <i>[provided in its entirety in Volume 3 (see below)]</i> • Exhibit G
Volume 2	Privileged	Consultation records regarding historic and archaeological resources
Volume 3	Critical Energy Infrastructure Information (CEII)	Exhibit F

Volume 2 includes consultation records containing sensitive, detailed information on location of historic and archeological resources, for which, pursuant to 18 C.F.R. §§ 388.112(b) and 388.113(c)(1), we accordingly request designation and special treatment as Privileged material.

Volume 3 includes Exhibit F in its entirety (Supporting Design Report and preliminary design drawings of principal Project works), for which, pursuant to 18 C.F.R. §§ 388.112(b) and 388.113(c)(1), we accordingly request designation and special treatment as CEII.

KHL is mailing a CD of Volume 1 and/or emailing notification of the DLA's submittal and availability on FERC's e-library and KHL's project website (<http://www.kenaihydro.com/>) to each person on FERC's official service and mailing lists and each person on the attached Distribution List. The entities include the Director of FERC's Portland Regional Office and those resource agencies, Native tribes, non-governmental organizations, and members of the general public that have expressed continued interest in the licensing proceedings. Once filed, all reviewing agencies and individuals will have a requisite 90 day comment period, per the FERC Traditional Licensing Process to complete their review and submit comments to FERC and KHL.

KHL has worked with its stakeholders to create a list of necessary management plans and appropriate protection, mitigation and enhancement (PM&E) measures and is currently finalizing the development of these. All plans and associated PM&Es will be distributed to FERC and stakeholders within the next 45 days for review. This will allow for a synonymous review and comment period with the DLA. The management plans and PM&E measures will then be refined per relevant comments and integrated into the Final License Application (FLA) filing.

KHL looks forward to continuing consultation and collaboration on this licensing effort with FERC and the interested stakeholders. If you have any questions regarding KHL's DLA, I can be contacted via email at msalzetti@homerelectric.com or by phone at (907) 283-2375.

Sincerely:



Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Kenai Hydro, LLC
3977 Lake Street
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Enclosures

Cc: Service List; Distribution List (see attached)

Distribution List for Draft License Application (FERC No. 13212)

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NOTE: Notice of DLA filing and its availability at www.kenaihydro.com was sent via email to all parties on the distribution list above, if an email address is available. Parties that are on the FERC Service or Mailing List were also mailed a CD of the DLA and are marked (**).

From: Warnock, Cory
Sent: Friday, March 27, 2015 10:22 AM
To: 'Ginny Litchfield (ginny.litchfield@alaska.gov)'; Begich, Robert N (DFG); jack.sinclair@alaska.gov; carl.reese@alaska.gov; Schade, David W (DNR); 'Robin Swinford'; Thomas, Ryan J (DNR); sfishergoad@aidea.org; valerie@akcenter.org; 'Gary Fandrei'; painter@arctic.net; kna@alaska.net; 'exec@kenaitze.org'; 'Brenda Trefon'; mmueller@kpb.us; ikerdhome@gmail.com; DMahalak@borough.kenai.ak.us; jgabler@borough.kenai.ak.us; jmohorci@borough.kenai.ak.us; 'Max Best'; admin@moosepassalaska.com; 'jan@hydroreform.org'; youth@qutekcak.net; info@salamatof.com; 'Denise Koopman (denise.koopman@usace.army.mil)'; 'Kevin Laves (klaves@fs.fed.us)'; 'jeavis@fs.fed.us'; 'Brent Goodrum'; 'waterlaw@uci.net'; Katharine Glaser; jjodhner@arctic.net; claireshipton@gmail.com; info@chenega.com; bwelty@chugach-ak.com; president@eklutna-nsn.gov; 'ntc@ninilchiktribe-nsn.gov'; mike@alaska-energy.com; irene@arctic.net; bearimage.dw@gmail.com; jherbert8550@gmail.com; katie.johnson@alaska.gov; jslang11@yahoo.com; pm99588@yahoo.com; peruprairie@hotmail.com; dgease@gmail.com; andbacon2@yahoo.com; dyrkss@yahoo.com
Cc: 'Mike Salzetti'; Andersen, Emily; 'JGallagher@HomerElectric.com'
Subject: Grant Lake Project Draft License Application
Attachments: FERC E-library.jpg
Categories: Orange category

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

As you are aware, Kenai Hydro (KHL) has been spending most of the winter and early spring preparing a Draft License Application (DLA) and associated monitoring and management plans for the proposed Grant Lake Hydroelectric Project (Project). I'm pleased to report that today (March 27th) the Grant Lake DLA was filed with FERC and subsequently accepted for filing. As such, the public portion of the document is now available for review and can be accessed via FERC eLibrary per the instructions below and will be available on the Project website early next week, <http://www.kenaihydro.com> (absent the complete consultation record on the Project site). Consistent with the FERC Traditional Licensing Process (TLP), the comment period will last 90 days coinciding with an ending date of Thursday June 25, 2015.

Concurrent with KHL's development of the DLA and consistent with its message throughout, KHL has developed a series of monitoring and management plans (plans) that comprehensively detail its plans for monitoring natural resources during construction and operations. The plans also outline KHL's proposed Protection, Mitigation and Enhancement Measures (PM&E's) for the Project site. The plans, as well as a Draft Biological Evaluation (BE), are currently going through final revisions and KHL will submit these documents for comment to Project stakeholders and FERC within 30 to 45 days. This will allow stakeholders an opportunity to review, cross-reference and comment on the plans in advance of or concurrent with the DLA comment period deadline (June 25). This process will facilitate an expeditious development of a Final License Application.

KHL appreciates your involvement to this point in the process and looks forward to your review and comments. If there are any questions regarding accessing the DLA or in general, don't hesitate to email me or give me a call.

Thanks,

Cory

Accessing the Grant Lake Project Draft License Application via FERC eLibrary:

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the “Date Range” category in the “From” option, make sure the date range is inclusive of the range between March 25th and March 31st. This will ensure that the DLA filing is included in your request.
- Under the “Library” category, make sure “Hydro” is selected.
- Under the “Docket Number” category, enter “P-13212”
- Click “Submit” at the bottom of the page. This will take you to all documents/correspondence that have been filed during your specified date range. (Screenshot of appropriately filled-out request page is attached to this email.)
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific exhibits that you’d like to review, select the .pdf option and the selected file will open on your computer.

Cory Warnock

Senior Licensing and Regulatory Consultant

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**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Warnock, Cory
Sent: Friday, March 27, 2015 10:45 AM
To: 'Monte Miller'; 'Patricia Berkahn (patricia.berkhahn@alaska.gov)'; 'Joe Klein'; 'Jason Mouw'; 'Judy Bittner'; 'Shina Duvall (mailto:shina.duvall@alaska.gov)'; 'Lesli Schick (lesli.schick@alaska.gov)'; 'Gary Prokosch'; dhertrich@aidea.org; david.griffin@alaska.gov; 'pamela.russell@alaska.gov'; jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; keeper@inletkeeper.org; 'Doug Mutter'; north.phil@epamail.epa.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; ricky@krsa.com; jczarn@borough.kneai.ak.us; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; johnb@ssraa.org; tbristol@tu.org; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; rbirk@fs.fed.us; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); 'Lynnda Kahn'; 'Jeffery Anderson'; 'Phil Brna'; 'Kime, Sherry D -FS'
Cc: 'Mike Salzetti'; Andersen, Emily; 'JGallagher@HomerElectric.com'
Subject: Grant Lake Project Draft License Application
Attachments: FERC E-library.jpg
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Concurrent with KHL's development of the DLA and consistent with its message throughout, KHL has developed a series of monitoring and management plans (plans) that comprehensively detail its plans for monitoring natural resources during construction and operations. The plans also outline KHL's proposed Protection, Mitigation and Enhancement Measures (PM&E's) for the Project site. The plans, as well as a Draft Biological Evaluation (BE), are currently going through final revisions and KHL will submit these documents for comment to Project stakeholders and FERC within 30 to 45 days. This will allow stakeholders an opportunity to review, cross-reference and comment on the plans in advance of or concurrent with the DLA comment period deadline (June 25). This process will facilitate an expeditious development of a Final License Application.

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Cory Warnock

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**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Kenai Hydro, LLC

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)
)

Project No. P 13212-00

REQUEST FOR REHEARING OF KENAI HYDRO, LLC

Pursuant to Section 313(a) of the Federal Power Act (“FPA”)¹ and Rule 713 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“FERC” or “the Commission”), 18 C.F.R § 385.713 (2014), Kenai Hydro, LLC (“Kenai Hydro”) hereby files this Request for Rehearing of the February 27, 2015 Order Denying Extension of Term for Preliminary Permit² (“February 27 Order”) pertaining to the Grant Lake Project No. 13212 (“Grant Lake Project”).

The February 27 Order states that there is “no evidence of extraordinary circumstances or factors outside of its control during the duration of the preliminary permit that prevented [Kenai Hydro] from filing a development application within the permit’s three-year term.”³ Kenai Hydro submits that this is not the appropriate standard of review for a request to extend a preliminary permit and that when evaluated against the appropriate standard, its request for extension should be granted. Moreover, there are extraordinary circumstances outside of Kenai Hydro’s control that prevented it from filing its development application. Given that Kenai Hydro has carried out its activities under the preliminary permit in good faith and

¹ 16 U.S.C. § 8251(a) (2012).

² *Kenai Hydro, LLC*, 150 FERC ¶ 62,115 (2015) (hereinafter, “February 27 Order”)(the February 27 Order was issued under delegated authority by the Chief, West Branch, Division of Hydropower Licensing, and constitutes “agency action”; Kenai Hydro will to actions taken in the February 27 Order as if they had been taken directly by the Commission).

³ *Id.*, at P 7.

with reasonable diligence and that Kenai Hydro encountered extraordinary circumstances outside of its control, and the fact that Kenai Hydro filed a Draft License Application (“DLA”) on this same date, Kenai Hydro requests that the Commission grant rehearing and extend the term of its preliminary permit for ten months to December 31, 2015.

Specification of Errors

In compliance with Rule 713(c)(1), Kenai Hydro specifies the following errors in the February 27 Order.

1. The Commission erred as a matter of law by failing to apply the “good faith and reasonable diligence” standard for extending a preliminary permit to Kenai Hydro’s request to extend its preliminary permit;
2. The Commission erred as a matter of law by applying an “extraordinary circumstances or factors outside of the control of the preliminary permit holder” standard to Kenai Hydro’s request to extend its preliminary permit; and
3. The Commission finding that extending Kenai Hydro’s preliminary permit through December 2015 would constitute site banking is not based upon substantial evidence.

Statement of Issues

Should the Commission grant rehearing of the February 27 Order to the extent that it is:

- (a) based on a failure to use the correct statutory standard for evaluating a request for extension of a preliminary permit;
- (b) based on misapplication of the standard applicable to the evaluation of a request to issue a third and successive preliminary permit; and
- (b) based a lack of substantial evidence to support a finding that extending the term of Kenai Hydro’s preliminary permit through December 2015 would constitute site banking.

Kenai Hydro submits that the Commission should do so. Kenai Hydro's position is supported by the Commission's statutory authority to extend a preliminary permit,⁴ the extensive record developed during the term of Kenai Hydro's preliminary permit for the Grant Lake Project,⁵ and Commission precedent.⁶

Request for Rehearing

I. Background

A. Procedural History

Kenai Hydro received its first preliminary permit for the proposed Grant Lake Project in October of 2008.⁷ The first preliminary permit expired by its terms on September 30, 2011. On October 1, 2011, Kenai Hydro submitted a second preliminary permit application for the proposed Grant Lake Project.⁸ On March 23, 2012, Kenai Hydro received a second preliminary permit for the Grant Lake Project.⁹ On January 27, 2015, Kenai Hydro filed a timely request for a ten-month extension of its existing preliminary permit.¹⁰ Kenai Hydro's preliminary permit expired on February 28, 2015, upon issuance of the February 27 Order which denied Kenai Hydro's request to extend its existing preliminary permit.

⁴ 16 U.S.C. § 798(b) (2014).

⁵ FERC Project No. 13212-001 to 13212-003.

⁶ *Utah Board of Water Resources*, 147 FERC ¶ 62,116 (2014) ("Utah Water Resources"); *Twin Lakes Canal Co.*, 141 FERC ¶ 62,224, P 7 (2012) ("Twin Lakes"); *BOSTI Hydroelectric LLC*, 144 FERC ¶ 62,215 (2013); *5440 Hydro, Inc.*, 144 FERC ¶ 62,194 (2013); *Black Canyon Hydro, LLC*, 148 FERC ¶ 62,192 (2014); *Western Minnesota Mun. Power Agcy*, 147 FERC ¶ 62,123 (2014); *Mahoning Hydropower, LLC*, 146 FERC ¶ 62,194 (2014); *Longview Energy Exchange, LLC*, 150 FERC ¶ 62,125 (2015); *Public Utility District No. 1 of Snohomish County*, 150 FERC ¶ 62,070 (2015); and, *Black Canyon Hydro, LLC*, 148 FERC ¶ 62,192 (2014).

⁷ *Kenai Hydro LLC*, 125 FERC ¶ 62,018 (2008).

⁸ FERC Accession Number: 20111003-5030.

⁹ *Kenai Hydro LLC*, 138 FERC ¶ 62,297 (2012).

¹⁰ FERC Accession Number: 20150127-5235.

B. Statutory Scheme for Preliminary Permits

Section 4(f) of the Federal Power Act (“FPA”) authorizes the Commission to issue preliminary permits to potential license applicants for a period of up to three years.¹¹ A preliminary permit preserves the right of the permit holder to have the first priority in applying for a license or exemption for the project site. Section 5(b) of the FPA, as amended by the Hydropower Regulatory Efficiency Act of 2013, states that a preliminary permit term can be extended once for not more than two additional years if the Commission finds that the permittee has carried out its activities under the permit in good faith and with reasonable diligence.¹² In its order amending the regulations pertaining to preliminary permits in accordance with changes made in the Hydropower Regulatory Efficiency Act of 2013, the Commission stated that the amendment to Section 5 of the FPA allows “permittees more time to complete their feasibility studies without facing possible competition for the site from others.”¹³

The FPA does not address the issue of how many preliminary permits an applicant may receive for the same site.¹⁴ It is Commission policy to grant a successive preliminary permit only if it concludes that the applicant has pursued the requirements of its prior permit in good faith and with due diligence.¹⁵ This is the same standard established in the Hydropower Regulatory Efficiency Act of 2013 for a request for extension of an existing permit. If a permittee applies for a second

¹¹ 16 U.S.C. § 797(f) (2012).

¹² See, Hydropower Regulatory Efficiency Act of 2013, Pub. L. No. 113-23, § 5, 127 Stat. 495 (codified as amended at 16 U.S.C. § 798(b)).

¹³ 148 FERC ¶ 61,197, *Revisions and Technical Corrections to Conform the Commission’s Regulations to the Hydropower Regulatory Efficiency Act of 2013*, Order No. 800, at P 4 (2014).

¹⁴ *Utah Water Resources* at P 5.

¹⁵ *Id.*, citing, *City of Redding, Cal.*, 33 FERC ¶ 61,019 (1985)(permittee must take certain steps, including consulting with the appropriate resource agencies early in the permit term, and timely filing six-month progress reports).

successive preliminary permit (i.e., a third preliminary permit), however, the Commission has granted the request only if the permittee has demonstrated that there is some extraordinary circumstance or factor outside its control that prevented it from filing a final license application (“FLA”).¹⁶

C. Request for Ten-month Extension of Second Preliminary Permit and the February 27 Order

Kenai Hydro timely submitted its request for a ten-month extension of its second preliminary permit for the Grant Lake Project on January 28, 2015.¹⁷ Of the many state, federal and tribal stakeholders and participating agencies involved in the Grant Lake Project preliminary permit process, only two organizations, the Kenai Watershed Foundation (“KRWF”) and the Center for Water Advocacy (the “Center”), filed comments on the request for extension. Neither the KRWF nor the Center have stated an interest in, or can be reasonably construed, as a competitive interest seeking to develop a hydropower project.

On February 27, Kenai Hydro’s request for a ten-month extension of its second preliminary permit was denied.¹⁸ The February 27 Order includes a finding that there is no evidence of extraordinary circumstances or factors outside of the control of Kenai Hydro that prevented it from filing a development application within the permit’s three year term.¹⁹ The February 27 Order states further that although Kenai Hydro has shown extensive progress toward developing a license application, extending Kenai Hydro’s second preliminary permit through December 2015 “would

¹⁶ *Id.*, citing *Greybull Valley Irrig. Dist.*, 143 FERC ¶ 61,131, at PP 14-15 92013); *Mokelumne River Water and Power Authority*, 89 FERC ¶ 61,001 (1999)(“*Mokelumne River*”); *see also*, *Twin Lakes Canal Co.*, 141 FERC ¶ 62,224 (2012)(“*Twin Lakes*”).

¹⁷ FERC Accession Number: 20150127-5235.

¹⁸ February 27 Order; FERC Accession Number: 20150227-3046.

¹⁹ February 27 Order at P 7.

constitute site banking.”²⁰ The first finding applies the wrong standard to Kenai Hydro’s request to extend its preliminary permit. The second finding is not supported by substantial evidence. Both findings are in error.

II. Discussion

A. The Kenai Hydro Preliminary Permit Should Be Extended Under Section 5(b) of the Federal Power Act

As described above, Section 5(b) of the FPA states that a preliminary permit term can be extended once for not more than two additional years if the Commission finds that the permittee has carried out its activities under the permit in good faith and with reasonable diligence.²¹ In its January 28 request for an extension of its second preliminary permit, Kenai Hydro stated that it was formally requesting

to extend its current Preliminary Permit for the Grant Lake Hydroelectric Project by 10 months for the purposes of finalizing its Draft License Application, distributing for public review, revising accordingly and submitting a Final License Application to the Federal Energy Regulatory Commission for review.²²

Rather than treat Kenai Hydro’s filing as a request for an extension of its preliminary permit and apply the “good faith and reasonable diligence” standard, the Commission erroneously applied a different and more stringent standard, the “extraordinary circumstance or factor outside the control of the permittee” standard.²³ Although Kenai Hydro’s activities under its second preliminary permit met both standards, the appropriate standard to apply in this case is the good faith and reasonable diligence standard for granting an extension of a current preliminary permit.

²⁰ *Id.*

²¹ 16 U.S.C. § 798(b) (2014).

²² FERC Accession Number: 20150127-5235, p. 1 (emphasis added; internal quotations omitted).

²³ February 27 Order at P 6.

In the period since passage of the Hydropower Regulatory Efficiency Act of 2013, the Commission has found that in order to meet the good faith and reasonable diligence standard for extending a preliminary permit, an applicant must take certain minimal steps under its preliminary permit, such as filing its Notice of Intent and Pre-application Document (“PAD”), completing draft studies and working to finalize the draft studies,²⁴ assembling a project team, reviewing comments on its application and meeting with state and non-governmental organization stakeholders.²⁵ In addition, the Commission has previously interpreted the good faith and due diligence standard in determining whether to grant a second successive preliminary permit to mean that an applicant must complete

certain steps toward preparing a development application, including developing study plans, conducting studies in a timely fashion, consulting with resource agencies, and developing the application in accordance with the Commission’s regulations. In addition, Commission staff must be able to discern a pattern of progress toward the preparation of a development application from the content of a permittee’s filings.²⁶

An applicant need not be on the verge of filing a license application, however, to demonstrate due diligence and good faith.²⁷

During the term of its second preliminary permit, Kenai Hydro finalized revised study plans, secured the required permits for a 2013 field study program, procured a weir and incline plane fish traps, purchased long lead radio tags, arranged

²⁴ *Utah Water Resources* at PP 8-9; *BOSTI Hydroelectric LLC*, 144 FERC ¶ 62,215 (2013); *5440 Hydro, Inc.*, 144 FERC ¶ 62,194 (2013); *Black Canyon Hydro, LLC*, 148 FERC ¶ 62,192 (2014); *Western Minnesota Muni. Power Agcy.*, 147 FERC ¶ 62,123 (2014); and *Mahoning Hydropower, LLC*, 146 FERC ¶ 62,194 (2014).

²⁵ *Longview Energy Exchange, LLC*, 150 FERC ¶ 62,125 (2015); *Public Utility District No. 1 of Snohomish County*, 150 FERC ¶ 62,070 (2015); and, *Black Canyon Hydro, LLC*, 148 FERC ¶ 62,192 (2014).

²⁶ *Twin Lakes Canal Co.*, 141 FERC ¶ 62,224, P 7 (2012)(“*Twin Lakes*”); see also, footnote 10, *supra*.

²⁷ At the time of submitting its request for extension, not one of the permittees in the cases cited in footnotes 23 and 24 claimed the date for filing its license application was imminent and it is unlikely any of the permittees had done so by the time the extension was granted.

for a site man camp, telemetry equipment, and boats, floatplanes and a helicopter to transport over 30 loads of equipment into the project site to conduct the 2013 field studies.²⁸ Through the spring, summer and fall of 2013 Kenai Hydro conducted a comprehensive and robust biological study program which incorporated all resource areas (Aquatics, Water Quantity/Quality, Terrestrial, Recreation and Visual and Cultural).²⁹ During the 2013/ 2014 winter, Kenai Hydro evaluated the study data and compiled reports that were presented to Stakeholders in March of 2014. Out of these meetings an aquatics work group was formed to iteratively refine study results.³⁰ When integrated with the engineering studies and operational modeling specifics, the aquatics studies show no net loss to fish habitat in the system and more consistent maintenance of the prime fish habitat reaches in Grant Creek.³¹ These positive impacts along with the enhancement measures Kenai Hydro is proposing in its DLA and associated management plans are the direct result of Kenai Hydro's commitment to a collaborative effort with the resource managers and stakeholders, and ultimately, a long term commitment to the natural resources in the Grant Lake Project area itself.

The Commission recognized in the February 27 Order that "Kenai Hydro has shown extensive progress toward the development of a license application..."³² Indeed, Kenai Hydro has clearly demonstrated that it carried out its activities in developing a DLA under its preliminary permit in good faith and with reasonable diligence. The Commission should grant rehearing of the February 27 Order and extend Kenai Hydro's preliminary permit as requested.

²⁸ FERC Accession Numbers: 20130827-5198 and 20140226-5165.

²⁹ FERC Accession Number: 20140226-5165.

³⁰ FERC Accession Number: 20140828-5019.

³¹ *Id.*

³² February 27 Order at P 7.

B. The Kenai Hydro Request for Extension of its Preliminary Permit Should Not Be Reviewed Under the Heightened Standard Used for Applications for Third Preliminary Permits

The February 27 Order states that “[i]t appears that, in giving the Commission authority to extend the term of a preliminary permit *once, but for no more than an additional two years*, Congress recognized that three years may not always be enough time to develop and file a license application, but that five years should be sufficient.”³³ In the very next paragraph, however, the February 27 Order states that the Commission “has rarely authorized reservation of a site under a preliminary permit for longer than six years to the same applicant...” unless there is “...some extraordinary circumstance or factor outside its control that prevented it from making progress toward developing a license application.”³⁴ In deciding whether to extend a current preliminary permit, however, the standard articulated by Congress in the Hydropower Regulatory Efficiency Act of 2013 neither authorizes nor allows the Commission to look beyond the term of the *current* permit for which the extension is requested.

The reasoning in the February 27 Order is facially and blatantly at odds with the letter and the purpose of Hydropower Efficiency Act of 2013 which is to promote hydropower development in the United States.³⁵ It is also inconsistent with the Commission’s statement in Order No. 800 that the amendment to Section 5 of the FPA would allow “permittees more time to complete their feasibility studies without

³³ February 27 Order at P 5 (italics in original, underlining added).

³⁴ *Id.*, at P 6 (emphasis added).

³⁵ S. Rep. No. 113-38 at 1 (a bill to “improve hydropower” and “promote hydropower development”); H.R. Rep. 113-6, at 1-2 (a bill to “improve hydropower” and “facilitate[] hydropower development”).

facing possible competition for the site from others.³⁶ The Commission clearly understands that it often takes six years or more to develop a license application and that a preliminary permit preserves the right of the permit holder to have the first priority in applying for a license or exemption for the project. Therefore, it is unreasonable for the Commission to implement its new authority under the Hydropower Efficiency Act of 2013 in a manner that shortens to five years a process it knows frequently takes six years or more. It is also unreasonable for the Commission to treat a request to extend a current successive preliminary permit, as is the preliminary permit in this case, as if it were an application for another successive preliminary permit. The analysis the Commission inappropriately made in this case is germane to, and only to, a matter that is not before the Commission: a request for a third preliminary permit.

Yet, this appears to be the approach the Commission is taking.³⁷ In *Utah Water Resources*, the Commission stated that since the Utah Water Board was requesting an extension of its second preliminary permit, “the heightened standard of review for applications for third permits applies here.”³⁸ In reviewing the Utah Water Board’s request for extension, the Commission found the Board had demonstrated that it carried out activities under the second preliminary permit in good faith and with reasonable diligence. In addition, the Commission found extraordinary circumstances that warranted extension of its second preliminary permit such as the

³⁶ See fn. 11 supra. (emphasis added).

³⁷ See, *Utah Water Resources* (granting extension of term for second preliminary permit); see also, *Pacific Gas and Elec. Co.*, 149 FERC ¶ 62,184 (2014) (“PG&E”) and *BPUS Generation Develop. LLC*, 147 FERC ¶ 62,038 (2014) (“BPUS”) (both orders deny extension of a second preliminary permit given absence of evidence of extraordinary circumstances or factors outside the permittee’s control that prevented it from preparing a development application).

³⁸ *Utah Water Resources* at P 6.

“proposed project’s unique size and complexity, the number of agencies and tribes involved, and the Board’s completion of the 23 studies required by the Commission.”³⁹

In contrast to *Utah Water Resources*, the Commission denied a request for extension in *PG&E* finding no evidence of extraordinary circumstances or factors outside of its control nor evidence of agency consultation, studies performed, planning activities for completing the Notice of Intent to File an Application for a New License and PAD, or choosing a licensing process. Therefore, PG&E was deemed to still be in the early stages of studying the need and feasibility of its project and far from ready to file a license application.⁴⁰ Similarly, in denying the extension requested in *BPUS*, the Commission found no evidence of extraordinary circumstances outside of its control nor evidence of BPUS planning any activities for selecting a licensing process, conducting required consultation, or developing studies necessary to support the development of an application.⁴¹

The *Utah Water Resources*, *PG&E*, and *BPUS* cases demonstrate that not only is it unreasonable, it is unnecessary for the Commission to adopt the heightened standard for reviewing requests to extend a second preliminary permit rather than use the standard established in FPA Section 5(b) when it reviews requests to extend a preliminary permit. In each of these cases, the Commission would have come to the same conclusion in its order if it had used the good faith and reasonable diligence standard. Indeed, the Commission stated explicitly in *Utah Water Resources* that the Water Board had carried out its activities under the second preliminary permit in

³⁹ *Id.*, at P 10.

⁴⁰ *PG&E* at P 8.

⁴¹ *BPUS* at P 9.

good faith and with reasonable diligence; in *PG&E* and *BPUS*, the Commission found “no evidence” of activities that would demonstrate good faith and reasonable diligence.

Assuming *arguendo*, that it were reasonable for the Commission to apply the heightened standard to Kenai Hydro’s request to extend its preliminary permit, as demonstrated below, Kenai Hydro meets that heightened standard. Nonetheless, like the Utah Water Board, Kenai Hydro has demonstrated it carried out activities under its second preliminary permit in good faith and with reasonable diligence. The Commission should grant rehearing and evaluate Kenai Hydro’s request for extension under the standard established in FPA Section 5(b), not the heightened standard used for review of an application for a third preliminary permit.

C. Granting the Kenai Hydro Request for Extension of its Preliminary Permit Would Not Constitute Site Banking

The Commission stated in the February 27 Order that extending the term of Kenai Hydro’s preliminary permit through December 2015 would constitute site banking.⁴² This finding is not supported by evidence in the record. The Commission’s policy against site banking is that an entity that is “unwilling or unable to develop a site should not be permitted to maintain the exclusive right to develop it.”⁴³ The facts in this case show nothing but the contrary.

⁴² February 27 Order at P 7.

⁴³ *Public Utility District No. 1 of Pend Oreille County, Wash.*, 124 FERC ¶ 61,064, at P 31 (2008); see also, *Mt. Hope Water Power Project LLP*, 116 FERC ¶ 61,232, at P 8 (2006); see also, *PG&E* at P 9 and *BPUS* at P 9 (granting an extension would contribute to site banking where there was no evidence that the permittee carried out activities under its second preliminary permit in good faith and with reasonable diligence nor of extraordinary circumstances or factors outside of its control that prevented it from preparing a development application).

The Commission acknowledged in the February 27 Order that “Kenai Hydro has shown extensive progress toward the development of a license application...”.⁴⁴ Kenai Hydro made this extensive progress during the term of its second preliminary permit even though Kenai Hydro encountered circumstances outside its control. Indeed, conducting scientific field studies in the harsh environments of remote sections of Alaska is fraught with extraordinary circumstances outside the control of a license applicant; the Grant Lake Project is not immune to this. The Grant Lake Project study area is only practically accessible by boat or float plane and there is typically ice on the Trail Lakes and Grant Lake from November through April. (Salzetti Aff. ¶2) While some limited winter access is available via snowshoe and wading, full scale study programs are not practical from November through April. (Salzetti Decl. ¶3) Given this ice and the logistical and safety concerns associated with these limited access conditions, a majority of the fieldwork must be conducted between May and October.⁴⁵ (Salzetti Aff. ¶4) Therefore, due to circumstances outside its control Kenai Hydro had access to the Grant Lake Project site during only half of the term of the second preliminary permit.

Nonetheless, Kenai Hydro met with stakeholders, consulted with resource agencies and diligently pursued licensing efforts during the term of the second preliminary permit. Moreover, on February 24, 2015, Kenai Hydro filed its Final Cultural Resources Report to allow stakeholders opportunity for review consistent

⁴⁴ February 27 Order at P 7 (emphasis added).

⁴⁵ FERC Accession Number: 20140815-5155, (specifically, Water Quality – Hydrology Final Report); *see also*, FERC Accession Number: 20130827-5198 (field studies begun in later March) and FERC Accession Number: 20140226-5165 (equipment and personnel demobilized from site in early November).

with the Section 106 process.⁴⁶ On March 27, 2015 Kenai Hydro filed a DLA with the Commission for the Grand Lake Project.⁴⁷

In addition, the Kenai Hydro 404 permit application has been developed and its submittal to the U.S. Army Corp of Engineers is imminent (within 30 days). Moreover, Kenai Hydro has prepared a suite of management plans that comprehensively detail its plans for monitoring natural resources during construction and operations, as well as, outline its proposed Protection, Mitigation and Enhancement Measures (PM&E's) for the Grant Lake Project site. Kenai Hydro will submit these plans for comment to project stakeholders within 30 to 60 days which will allow for an opportunity to review plans in advance of the DLA comment period deadline. This process will facilitate an expeditious development of a FLA.

Kenai Hydro has spent over \$5 million, including \$2.1 Million of Alaska State grant funds in developing its draft license application. This is a significant investment for a small rural electric cooperative and shows a substantial commitment to developing a FLA. The actions outlined in this Request for Rehearing and in Kenai Hydro's request for extension, the filing of a DLA and other required documents in the period since filing the request for extension, and the extensive FERC record on the Grant Lake Project, clearly demonstrate Kenai Hydro's due diligence and ongoing commitment to develop a FLA for the Commission's consideration and that Kenai Hydro is not engaged in "site banking."⁴⁸

⁴⁶ FERC Accession Numbers: 20150224-5149 and 20150224-5150.

⁴⁷ FERC Accession Numbers: 201503275177, 201503275178, 201503275179

⁴⁸ See, *Twin Lakes* at PP 3-4 (no mention of site banking when permittee "continually demonstrated due diligence and good faith during the term of its previous permit".)

In addition, there are numerous state, federal and tribal stakeholders and participating agencies involved in the Grant Lake Project. Only two of these filed comments on the request for extension, KRWF and the Center; and one of these, KRWF, boldly states in its comments that “it will strongly oppose any similar project”. Kenai Hydro believes the minimal opposition to its request for rehearing is indicative that most, if not all, of the other stakeholders and participating agencies agree with Kenai Hydro that it is appropriate for the Commission to grant an extension of its preliminary permit for the requested ten months.

III. Conclusion

THEREFORE, for the foregoing reasons, Kenai Hydro requests that the Commission grant rehearing of the February 27 Order to the extent it is based on a failure to use the correct statutory standard for evaluating a request for extension of a preliminary permit and based on a finding that extending the term of Kenai Hydro’s permit through December 2015 would constitute site banking.

Respectfully submitted,

/s/

Pamela J. Anderson
Perkins Coie LLP
10885 NE 4th Street, Suite 700
Bellevue, WA 98004-5579
(425) 635-1417
Pjanderson@perkinscoie.com

An Attorney for Kenai Hydro, LLC

Dated: March 27, 2015

CERTIFICATE OF SERVICE

I hereby certify that, on this 27th day of March, 2015, I have served the foregoing Request for Rehearing of Kenai Hydro, LLC upon each person designated on the official service list compiled by the Secretary in this proceeding.



Ivy Carr
Legal Secretary
Perkins Coie LLP
10885 NE 4th Street, Suite 700
Bellevue, WA 98004-5579
(425) 635-1400
ICarr@perkinscoie.com

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Kenai Hydro, LLC

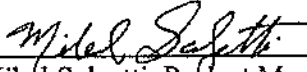
)
)
)

Project No. P 13212-00

**AFFIDAVIT OF MIKEL SALZETTI
IN SUPPORT OF REQUEST FOR REHEARING OF KENAI HYDRO, LLC**

I, Mikel Salzetti, having been first duly sworn according to law, state that the following facts, provided under oath, are true and correct to the best of my knowledge and information:

1. I am the Project Manager for Kenai Hydro, LLC ("Kenai Hydro"), the developer of the Grant Lake Project No. 13212 ("Grant Lake Project"). My business address is 3977 Lake Street, Homer AK 99603.
2. The Grant Lake Project is located approximately 25 miles north of Seward Alaska. The Grant Lake Project study area is only practically accessible by boat or float plane and there is typically ice on the Trail Lakes and Grant Lake from November through April.
3. There is some limited winter access to the Grant Lake Project site through the winter months via snowshoe and wading. Full scale study programs, however, are not practical from November through April.
4. Given the ice on the Trail Lakes and Grant Lake, and the logistical and safety concerns associated with these limited access conditions, a majority of the fieldwork on the Grant Lake Project must be conducted between May and October.



Mikel Salzetti, Project Manager
Kenai Hydro, LLC

VERIFICATION

State of Alaska)
Borough of KPB)

Before me, Colleen M Vance, a notary public, on this day personally appeared Mikel Salzetti, known to me as the person whose name is subscribed to the foregoing Affidavit, and known to me as the Project Manager of Kenai Hydro, LLC, and stated to me the facts contained in such Affidavit are true and correct to the best of his knowledge and belief.

Given my hand and seal this 27th day of March, 2015.

Colleen M Vance
Notary Public
State of Alaska

My Commission expires: 11-08-2016



Document Content(s)

Kenai Mar 27-2015 Rqst Rehrq P-13212.PDF.....1-18

From: Warnock, Cory
Sent: Friday, March 27, 2015 10:50 AM
To: shina.duvall@alaska.gov; Jeffry Anderson
Cc: Andersen, Emily
Subject: FW: Grant Lake Project Draft License Application
Attachments: FERC E-library.jpg

Hi Shina and Jeff,

Apologies for the email not getting through to you the first time around. My database with stakeholder addresses must have had a couple errors!!

Please see below and don't hesitate to let me know if you have any questions.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Warnock, Cory
Sent: Friday, March 27, 2015 10:45 AM
To: 'Monte Miller'; 'Patricia Berkahn (patricia.berkhahn@alaska.gov)'; 'Joe Klein'; 'Jason Mouw'; 'Judy Bittner'; 'Shina Duvall (mailto:shina.duvall@alaska.gov)'; 'Lesli Schick (lesli.schick@alaska.gov)'; 'Gary Prokosch'; 'dhertrich@aidea.org'; 'david.griffin@alaska.gov'; 'pamela.russell@alaska.gov'; 'jseebach@americanrivers.org'; 'kkeeler@blm.gov'; 'hshepherd@uci.net'; 'jbrune@ciri.com'; 'keeper@inletkeeper.org'; 'Doug Mutter'; 'north.phil@epamail.epa.gov'; 'Ken Hogan'; 'frank.winchell@ferc.gov'; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'jjh@seward.net'; 'jaffa@eagle.ptialaska.net'; 'ricky@krsa.com'; 'jczarn@borough.kneai.ak.us'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; 'johnb@ssraa.org'; 'tbristol@tu.org'; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'rbirk@fs.fed.us'; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'Karen O'Leary'; 'Travis Moseley (tmoseley@fs.fed.us)'; 'Lynnda Kahn'; 'Jeffery Anderson'; 'Phil Brna'; 'Kime, Sherry D -FS'
Cc: 'Mike Salzetti'; Andersen, Emily; 'JGallagher@HomerElectric.com'
Subject: Grant Lake Project Draft License Application

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

As you are aware, Kenai Hydro (KHL) has been spending most of the winter and early spring preparing a Draft License Application (DLA) and associated monitoring and management plans for the proposed Grant Lake Hydroelectric Project (Project). I'm pleased to report that today (March 27th) the Grant Lake DLA was filed with FERC and subsequently accepted for filing. As such, the public portion of the document is now available for review and can be accessed via FERC eLibrary per the instructions below and will be available on the Project website early next week, <http://www.kenaihydro.com> (absent the complete consultation record on the Project site). In addition, if you are getting this email, you will be receiving a cd with the public portion of the DLA (including attachments) within the next week. Consistent with the FERC Traditional Licensing Process (TLP), the comment period will last 90 days coinciding with an ending date of Thursday June 25, 2015.

Concurrent with KHL's development of the DLA and consistent with its message throughout, KHL has developed a series of monitoring and management plans (plans) that comprehensively detail its plans for monitoring natural resources during construction and operations. The plans also outline KHL's proposed Protection, Mitigation and Enhancement Measures (PM&E's) for the Project site. The plans, as well as a Draft Biological Evaluation (BE), are currently going through final revisions and KHL will submit these documents for comment to Project stakeholders and FERC within 30 to 45 days. This will allow stakeholders an opportunity to review, cross-reference and comment on the plans in advance of or concurrent with the DLA comment period deadline (June 25). This process will facilitate an expeditious development of a Final License Application.

KHL appreciates your involvement to this point in the process and looks forward to your review and comments. If there are any questions regarding accessing the DLA or in general, don't hesitate to email ~~me~~ or give me a call.

Thanks,

Cory

Accessing the Grant Lake Project Draft License Application via FERC eLibrary:

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between March 25th and March 31st. This will ensure that the DLA filing is included in your request.
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- Under the "Docket Number" category, enter "P-13212"
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- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific exhibits that you'd like to review, select the .pdf option and the selected file will open on your computer.

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

Begin forwarded message:

From: "McCafferty, Katherine A POA" <Katherine.A.McCafferty2@usace.army.mil>
Date: March 27, 2015 at 12:54:40 PM PDT
To: "Warnock, Cory" <Warnock@mcmjac.com>
Subject: RE: Grant Lake Project Draft License Application, POA-2008-1492
(UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Cory,

That's what I needed.

Thanks,

Katie McCafferty
Project Manager
Direct Line: 907-753-2692

U.S. Army Corps of Engineers-Alaska District
Regulatory Division, Kenai Field Office
44669 Sterling Highway, Suite B
Soldotna, AK 99669-7915
Website: <http://www.poa.usace.army.mil/Missions/Regulatory.aspx>

Please note my new (temporary) direct phone number.

-----Original Message-----

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Friday, March 27, 2015 11:35 AM
To: McCafferty, Katherine A POA
Subject: [EXTERNAL] RE: Grant Lake Project Draft License Application, POA-2008-1492
(UNCLASSIFIED)

Hi Katie,

The 404 application has been drafted and is currently with KHL review. While I can't get you a specific date, it is literally the next item to get finalized and I'd expect it within the next few weeks.

With respect to the DLA and FERC review, the best name I can give you is our Grant Lake FERC representative, Ken Hogan (kenneth.hogan@ferc.gov). That said and given this is the Draft License Application, the intent of the document is more for stakeholder review and comment than it is for FERC. That's not to say they won't be looking at it, verifying content and developing a preliminary assessment of content but with respect to a formal review and determination, that will come once an FLA is developed after comments/revisions from stakeholders are addressed.

Hopefully I answered your questions? Happy to discuss further if you'd like.

Cory Warnock
Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates
5771 Applegrove Ln | Ferndale, Wa. 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

*Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.

-----Original Message-----

From: McCafferty, Katherine A POA [<mailto:Katherine.A.McCafferty2@usace.army.mil>]
Sent: Friday, March 27, 2015 12:30 PM
To: Warnock, Cory
Subject: RE: Grant Lake Project Draft License Application, POA-2008-1492 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hi Cory,

When does submittal of an application to the Corps fit into the timeline below?

Also, could you give me the name and contact number of the person at FERC who is reviewing this application?

Thanks,

Katie McCafferty
Project Manager
Direct Line: 907-753-2692

U.S. Army Corps of Engineers-Alaska District Regulatory Division, Kenai Field Office

44669 Sterling Highway, Suite B
Soldotna, AK 99669-7915
Website: <http://www.poa.usace.army.mil/Missions/Regulatory.aspx>

Please note my new (temporary) direct phone number.

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From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Friday, March 27, 2015 9:45 AM
To: 'Monte Miller'; 'Patricia Berkahn' (patricia.berkhahn@alaska.gov); 'Joe Klein'; 'Jason Mouw'; 'Judy Bittner'; 'Shina Duvall' (<mailto:shina.duvall@alaska.gov>); 'Lesli Schick' (lesli.schick@alaska.gov); 'Gary Prokosch'; dhertrich@aidea.org; david.griffin@alaska.gov; pamela.russell@alaska.gov; jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; keeper@inletkeeper.org; 'Doug Mutter'; north.phil@epamail.epa.gov; 'Ken Hogan'; frank.winchell@ferc.gov; mcooney@arctic.net; kenailake@arctic.net; jjh@seward.net; jaffa@eagle.ptialaska.net; ricky@krsa.com; jczarn@borough.kneai.ak.us; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell' (prufrock@arctic.net); johnb@ssraa.org; tbristol@tu.org; McCafferty, Katherine A POA; rbirk@fs.fed.us; rstovall@fs.fed.us; 'Van Massenhove, Katherine B -FS' (kvanmassenhove@fs.fed.us); 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); 'Lynnda Kahn'; 'Jeffery Anderson'; 'Phil Brna'; 'Kime, Sherry D -FS'
Cc: 'Mike Salzetti'; Andersen, Emily; JGallagher@HomerElectric.com
Subject: [EXTERNAL] Grant Lake Project Draft License Application

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

As you are aware, Kenai Hydro (KHL) has been spending most of the winter and early spring preparing a Draft License Application (DLA) and associated monitoring and management plans for the proposed Grant Lake Hydroelectric Project (Project). I'm pleased to report that today (March 27th) the Grant Lake DLA was filed with FERC and subsequently accepted for filing. As such, the public portion of the document is now available for review and can be accessed via FERC eLibrary per the instructions below and will be available on the Project website early next week, <http://www.kenaihydro.com> (absent the complete consultation record on the Project site). In addition, if you are getting this email, you will be receiving a cd with the public portion of the DLA (including attachments) within the next week. Consistent with the FERC Traditional Licensing Process (TLP), the comment period will last 90 days coinciding with an ending date of Thursday June 25, 2015.

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also outline KHL's proposed Protection, Mitigation and Enhancement Measures (PM&E's) for the Project site. The plans, as well as a Draft Biological Evaluation (BE), are currently going through final revisions and KHL will submit these documents for comment to Project stakeholders and FERC within 30 to 45 days. This will allow stakeholders an opportunity to review, cross-reference and comment on the plans in advance of or concurrent with the DLA comment period deadline (June 25). This process will facilitate an expeditious development of a Final License Application.

KHL appreciates your involvement to this point in the process and looks forward to your review and comments. If there are any questions regarding accessing the DLA or in general, don't hesitate to email me or give me a call.

Thanks,

Cory

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- * A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific exhibits that you'd like to review, select the .pdf option and the selected file will open on your computer.

Cory Warnock

Senior Licensing and Regulatory Consultant

From: Warnock, Cory
Sent: Tuesday, March 31, 2015 11:22 AM
To: Andersen, Emily
Subject: FW: Grant Lake Project Draft License Application

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Warnock, Cory
Sent: Tuesday, March 31, 2015 11:21 AM
To: 'Daniel J. Hertrich'
Cc: 'Mike Salzetti'
Subject: RE: Grant Lake Project Draft License Application

Hi there,

Mike Salzetti (Cc'd) will actually be in Anchorage tomorrow and now plans on delivering your copy of the overall Grant Lake DLA CD to you in person. He will make sure your version of the disk includes all of Exhibit F (public and CEII information). Not sure what time he'll drop it off but it will be sometime tomorrow.

If you need anything else, don't hesitate to let me know.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



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From: Daniel J. Hertrich [<mailto:DHertrich@aidea.org>]
Sent: Tuesday, March 31, 2015 10:59 AM
To: Warnock, Cory
Subject: RE: Grant Lake Project Draft License Application

Hi Cory, can you send me a copy of Exhibit F?

Daniel Hertrich, P.E.

Hydroelectric Program & Project Manager
Alaska Energy Authority
813 W Northern Lights Blvd
Anchorage, AK 99503
dhertrich@aidea.org
(907) 771-3045 office
(907) 223-0678 mobile



From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Friday, March 27, 2015 9:45 AM
To: 'Monte Miller'; 'Patricia Berkhahn' (patricia.berkhahn@alaska.gov); 'Joe Klein'; 'Jason Mouw'; 'Judy Bittner'; 'Shina Duvall' (<mailto:shina.duvall@alaska.gov>); 'Lesli Schick' (lesli.schick@alaska.gov); 'Gary Prokosch'; Daniel J. Hertrich; david.griffin@alaska.gov; 'pamela.russell@alaska.gov'; jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; keeper@inletkeeper.org; 'Doug Mutter'; north.phil@epamail.epa.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; ricky@krsa.com; iczarn@borough.kneai.ak.us; susan walker; 'Cassie Thomas'; 'Mark Luttrell' (prufrock@arctic.net); johnb@ssraa.org; tbristol@tu.org; 'Katherine McCafferty' (katherine.a.mccafferty2@usace.army.mil); rbirk@fs.fed.us; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS' (kvanmassenhove@fs.fed.us); 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); 'Lynnda Kahn'; 'Jeffery Anderson'; 'Phil Brna'; 'Kime, Sherry D -FS'
Cc: 'Mike Salzetti'; Andersen, Emily; 'JGallagher@HomerElectric.com'
Subject: Grant Lake Project Draft License Application

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Thanks,

Cory

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Cory Warnock

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Senior Licensing and Regulatory Consultant

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360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



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From: Warnock, Cory

Sent: Friday, April 03, 2015 12:01 PM

To: 'Paul Torgerson (paul@grantlakemining.com)'

Subject: FW: Grant Lake Project Draft License Application

Hello Paul,

Per your request, please see the email below (and attachment) which documents your options for reviewing and commenting on the Grant Lake DLA. In addition, I have added your name to the list of stakeholders that wish to continue to be kept apprised of all public aspects related to project development. If you have any questions, please do not hesitate to let me know.

Thank you.

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

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Accessing the Grant Lake Project Draft License Application via FERC eLibrary:

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between March 25th and March 31st. This will ensure that the DLA filing is included in your request.
- Under the "Library" category, make sure "Hydro" is selected.
- Under the "Docket Number" category, enter "P-13212"
- Click "Submit" at the bottom of the page. This will take you to all documents/correspondence that have been filed during your specified date range. (Screenshot of appropriately filled-out request page is attached to this email.)
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific exhibits that you'd like to review, select the .pdf option and the selected file will open on your computer.

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Kromrey, Karen -FS [<mailto:kkromrey@fs.fed.us>]
Sent: Friday, April 03, 2015 3:30 PM
To: Salzetti, Mikel
Subject: White Rock Mining Plan of Operation - Objection period

Hello Mikel,

Attached is the environmental assessment and draft decision notice for the White Rock Mining Plan of Operation. You submitted a comment during the public scoping period and therefore this project is subject to a pre-decisional administrative review process. Please see the attached letter and if you have any questions, please give me a call or email me. Thank you!

Karen Kromrey
Supervisory Natural Resource Specialist
Forest Service
Chugach National Forest/Seward Ranger District

p: 907-288-7745
f: 907-288-5111
kkromrey@fs.fed.us

29847 Seward Highway
Seward, AK 99664
www.fs.fed.us



Caring for the land and serving people



From: Warnock, Cory
Sent: Friday, April 10, 2015 10:33 AM
To: Hal Shepherd
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: RE: Grant Lake Project Draft License Application

Sorry about the incorrect address. I'm sure Mike will drop another copy in the mail shortly. Obviously and per my email below, you can also access the DLA via both the FERC eLibrary and KHL's website.

Let me know if you need anything else.

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Hal Shepherd [mailto:hal.shepherd@tcfwa.org]
Sent: Friday, April 10, 2015 10:17 AM
To: Warnock, Cory
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: RE: Grant Lake Project Draft License Application

Thanks for checking Cory. Apparently, the CD address that HEA has listed for me is: CWA, POB 331, Seward, AK 84532-0331. I have, however, never been at that address.

Hal Shepherd, President
Center for Water Advocacy
P.O. Box 15332
Fritz Creek, AK 99603
(907)491-1355
hal.shepherd@tcfwa.org

From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Thursday, April 09, 2015 7:56 AM
To: Hal Shepherd
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: RE: Grant Lake Project Draft License Application

Hi Hal,

I'm Cc'ing Mike on this response as HEA was responsible for sending out CD's. I'll have him check up on it and if in fact it was sent to the wrong address, I'll have him ship another off immediately.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Hal Shepherd [<mailto:hal.shepherd@tcfwa.org>]
Sent: Thursday, April 09, 2015 8:42 AM
To: Warnock, Cory
Subject: RE: Grant Lake Project Draft License Application

Cory:

I understand that you forwarded a CD with the licensing application and attachments to stakeholders, however, my copy was, apparently, sent to the wrong address. Could you please re-send to the address below. Thank you.

Hal Shepherd, Director
Center for Water Advocacy
P.O. Box 15332
Fritz Creek, AK 99603
(907)491-1355
hal.shepherd@tcfwa.org

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Friday, March 27, 2015 9:45 AM
To: 'Monte Miller'; 'Patricia Berkahn' (patricia.berkhahn@alaska.gov); 'Joe Klein'; 'Jason Mouw'; 'Judy Bittner'; 'Shina Duvall' (<mailto:shina.duvall@alaska.gov>); 'Lesli Schick' (lesli.schick@alaska.gov); 'Gary Prokosch'; dhertrich@aidea.org; david.griffin@alaska.gov; 'pamela.russell@alaska.gov'; jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; keeper@inletkeeper.org; 'Doug Mutter'; north.phil@epamail.epa.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; ricky@krsa.com; iczarn@borough.kneai.ak.us; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell' (prufrock@arctic.net); johnb@ssraa.org; tbristol@tu.org; 'Katherine McCafferty' (katherine.a.mccafferty2@usace.army.mil); rbirk@fs.fed.us; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS' (kvanmassenhove@fs.fed.us); 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); 'Lynnda Kahn'; 'Jeffery Anderson'; 'Phil Brna'; 'Kime, Sherry D -FS'
Cc: 'Mike Salzetti'; Andersen, Emily; 'JGallagher@HomerElectric.com'
Subject: Grant Lake Project Draft License Application

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

As you are aware, Kenai Hydro (KHL) has been spending most of the winter and early spring preparing a Draft License Application (DLA) and associated monitoring and management plans for the proposed Grant Lake Hydroelectric Project (Project). I'm pleased to report that today (March 27th) the Grant Lake DLA was filed with FERC and subsequently accepted for filing. As such, the public portion of the document is now available for review and can be accessed via FERC eLibrary per the instructions below and will be available on the Project website early next week, <http://www.kenaihydro.com> (absent the complete consultation record on the Project site). In addition, if you are getting this email, you will be receiving a cd with the public portion of the DLA (including attachments) within the next week. Consistent with the FERC Traditional Licensing Process (TLP), the comment period will last 90 days coinciding with an ending date of Thursday June 25, 2015.

Concurrent with KHL's development of the DLA and consistent with its message throughout, KHL has developed a series of monitoring and management plans (plans) that comprehensively detail its plans for monitoring natural resources during construction and operations. The plans also outline KHL's proposed Protection, Mitigation and Enhancement Measures (PM&E's) for the Project site. The plans, as well as a Draft Biological Evaluation (BE), are currently going through final revisions and KHL will submit these documents for comment to Project stakeholders and FERC within 30 to 45 days. This will allow stakeholders an opportunity to review, cross-reference and comment on the plans in advance of or concurrent with the DLA comment period deadline (June 25). This process will facilitate an expeditious development of a Final License Application.

KHL appreciates your involvement to this point in the process and looks forward to your review and comments. If there are any questions regarding accessing the DLA or in general, don't hesitate to email me or give me a call.

Thanks,

Cory

Accessing the Grant Lake Project Draft License Application via FERC eLibrary:

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between March 25th and March 31st. This will ensure that the DLA filing is included in your request.
- Under the "Library" category, make sure "Hydro" is selected.
- Under the "Docket Number" category, enter "P-13212"
- Click "Submit" at the bottom of the page. This will take you to all documents/correspondence that have been filed during your specified date range. (Screenshot of appropriately filled-out request page is attached to this email.)
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific exhibits that you'd like to review, select the .pdf option and the selected file will open on your computer.

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Thomas, Cassie [mailto:cassie_thomas@nps.gov]
Sent: Monday, April 20, 2015 8:40 AM
To: Warnock, Cory
Subject: Re: Grant Lake DLA CD

No, that is my current address. Perhaps the USPS delivered it to the wrong place and the recipient just put a "return to sender" on it instead of redirecting it?

I can see the documents on both websites but having the CD would be great due to the size of the files, so if you or Mike could resend, I'd appreciate it. I'd been wondering where the mailed copy was -- figured I wouldn't download since it was in the mail.

Thanks Cory!

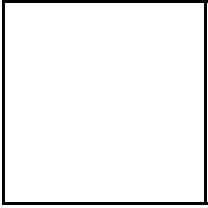
Cassie Thomas
Program Analyst

Wild and Scenic River Specialist, Park Planning & Special Studies Division, Washington DC
[Park Planning Website](#)

Alaska Coordinator, Hydropower Assistance Program
[NPS Hydropower Program website](#)

11081 Glazanof Dr. Rm. 108
Anchorage AK 99507

Work Cell 907 350-4139



On Fri, Apr 17, 2015 at 3:51 PM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi Cassie,

Mike Salzetti just let me know that your CD of the Grant Lake DLA was recently returned to KHL. It appears that we had either a dated or incorrect address for you so my apologies. Regardless, I wanted to check in and make sure you were able to access the DLA via either FERC's eLibrary or the KHL website in the interim per the message I sent you on March 27th. I also wanted to let you know that Mike will be expediting a copy of the DLA on CD to the address below to make sure you have multiple ways of viewing the document. Again, my apologies and let me know if you have and questions/concerns.

11081 Glazanof Dr. Rm. 108
Anchorage AK 99507

Thanks.

Cory Warnock
Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates<<http://www.mcmjac.com/>>
5771 Applegrove Ln | Ferndale, Wa. 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com<<mailto:warnock@mcmjac.com>>

[MJA_logo]

*Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.

From: Warnock, Cory
Sent: Wednesday, April 22, 2015 8:51 AM
To: 'Thomas, Cassie'
Subject: RE: Got the CD -- thanks!

No thanks necessary. Sorry it didn't get to you the first time!!

Cory Warnock

Senior Licensing and Regulatory Consultant

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, Wa. 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



**Please note that Jacobs Associates and McMillen LLC have officially merged and my email address has changed.*

From: Thomas, Cassie [mailto:cassie_thomas@nps.gov]
Sent: Wednesday, April 22, 2015 8:49 AM
To: Warnock, Cory
Subject: Got the CD -- thanks!

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Kenai Hydro, LLC

Project No. 13212-004

ORDER GRANTING REHEARING FOR
FURTHER CONSIDERATION

(April 27, 2015)

Rehearing has been timely requested of the Commission's order issued on February 27, 2015, in this proceeding by the Chief, West Branch, Division of Hydropower Licensing, Office of Energy Projects. *Kenai Hydro, LLC*, 150 FERC ¶ 62,115 (2015). In the absence of Commission action within 30 days from the date the rehearing request was filed, the request for rehearing (and any timely requests for rehearing filed subsequently)¹ would be deemed denied. 18 C.F.R. § 385.713 (2014).

In order to afford additional time for consideration of the matters raised or to be raised, rehearing of the Commission's order is hereby granted for the limited purpose of further consideration, and timely-filed rehearing requests will not be deemed denied by operation of law. Rehearing requests of the above-cited order filed in this proceeding will be addressed in a future order. As provided in 18 C.F.R. § 385.713(d), no answers to the rehearing requests will be entertained.

Nathaniel J. Davis, Sr.,
Deputy Secretary.

¹ See *San Diego Gas & Electric Company v. Sellers of Energy and Ancillary Services into Markets Operated by the California Independent System Operator and the California Power Exchange, et al.*, 95 FERC ¶ 61,173 (2001) (clarifying that a single tolling order applies to all rehearing requests that were timely filed).

Document Content(s)

P-13212-004.DOC.....1-1

From: Bruce Jaffa <bruce@jaffaconstruction.com>
Sent: Thursday, May 07, 2015 11:00 AM
To: Warnock, Cory
Cc: Jeff & Rose Hetrick; Dawn Campbell; Mike Salzetti; Shawn and Mary McDonald; Brad Zubeck; Mike & Beth Johnson; Andersen, Emily; Julie Lindquist; Jeff and Terry Estes; David Pearson; Carole Jaffa; Rick Smeriglio & Ellen O'Brien; Mike Cooney; Dave Fulton; Ben & Rosella Ikerd; jjodhner; Irene Lindquist
Subject: Re: Grant Lake Hydro DLA Comments

Correction the response date is June 25th to comment on the bridge and power line planned across the narrows between upper and lower Trail Lake and the rest including the obvious need for a new switch yard on the powerline.

Bruce Jaffa

On May 7, 2015 9:54 AM, "Bruce Jaffa" <bruce@jaffaconstruction.com> wrote:

Thank you Mr Warnock,

I understand your distribution stragedy and understand, now how some in our community were missed. I do not beleive your selection process adequately communicated with all stake holders, but that may be the problem with electronic notifications these days. Your mail to me was as a resident and not as an officer or member of any local board.

I will follow your expectation, that the recipients of the data MIGHT act as a network for dissemination of the information that is currently only partially known in the full local community even as it is spread to those outside of the local area.

I will of course study the information and add my comments and will continue to encourage others to comment as well. I have copied a few local residents with your letter that includes the June 16 deadline and address to use.

Regards,

Bruce Jaffa

Bruce Jaffa

On May 7, 2015 8:08 AM, "Warnock, Cory" <Warnock@mcmjac.com> wrote:

Hello Mr. Jaffa,

Mike Salzetti forwarded along your email (below) and asked that I get back to you in regard to your questions.

With respect to your comment regarding receipt of DLA materials associated with Grant Lake, KHL distributed the materials in two fashions. The first involved sending an email followed by a cd to specific stakeholders that had been intimately involved in the licensing process and indicated a distinct desire to stay apprised of developments. The theory here was that given their role, they would be able to distribute the DLA to other public members who had interest but hadn't stayed as involved as they were likely in touch (as it sounds like you are) with them. The second distribution method was a separate email to the public and other stakeholders who had indicated during an extensive polling process in 2014 that they wished to continue to stay informed and kept up to date on recent developments associated with the Project. This email included explicit direction for how to access the Grant Lake DLA both via FERC's website and KHL's. To supplement this, folks who took part in the public meeting in Moose Pass were added to the list if they weren't already included.

Per the email that was sent out on 3/27/15, the deadline for comments (90 days) is June 25th. With respect to the appropriate mechanism for submitting comments to the FERC record related to the Grant Lake Project, two options exist:

1. You can write up your comments and mail them to:

Honorable Kimberly D. Bose, Secretary

Federal Energy Regulatory Commission

888 First Street, NE

Washington, DC 20426

Make sure you reference the Grant Lake Project Number (P-13212) in your opening and state that your comments relate to the KHL Draft License Application.

2. The other option which honestly is a bit more cumbersome and labor intensive is to create a profile on FERC's eLibrary website (<http://www.ferc.gov/docs-filing/elibrary.asp>) and go through the steps of filing your comments this way.

Hopefully this answers your questions but as always, if you have anything further, don't hesitate to let me know.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

[360.384.2662](tel:360.384.2662) p | [360.739.0187](tel:360.739.0187) c

warnock@mcmjac.com

From: Bruce Jaffa [<mailto:bruce@jaffaconstruction.com>]

Sent: Wednesday, May 06, 2015 10:34 PM

To: Salzetti, Mikel

Cc: jjodhner; Jeff & Rose Hetrick; Mike Cooney; David Pearson; Ben Ikerd; Wall, Bruce; Rick Smeriglio & Ellen O'Brien; Dawn Campbell

Subject: Grant Lake Hydro

Mr. Salzetti,

Thank you for the distribution of the CD documents for the Grant Lake project. I am not sure that everyone received these that had previously registered with KHL. Although I do speak from under many hats I am writing today as Chair of the Moose Pass Advisory Planning Commission.

At our May 6th meeting, we engaged in a lively discussion among the Commissioners and the attendees of the current status of the KHL project. The community has and continues to express strong desire to submit comments to KHL and FERC at every stage the process permits. Please clarify the deadline date and proper address' to be used for comments. I have copied our commissioners and local residents to allow quick dissemination of the information you may provide. I believe that the time is short, so your quick response will

be most appreciated. Of particular concern is the routing of a road and power line that is radically different than what was proposed in public meetings during an earlier phase of the process.

Respectfully,

--

Bruce Jaffa

[907-240-0362](tel:907-240-0362) Mobile

Bruce@JaffaConstruction.com

Begin forwarded message:

Resent-From: <cory.warnock@mcmillen-llc.net>
From: "McCafferty, Katherine A POA" <Katherine.A.McCafferty2@usace.army.mil>
Date: May 11, 2015 at 2:52:35 PM PDT
To: "McCafferty, Katherine A POA" <Katherine.A.McCafferty2@usace.army.mil>
Cc: "CEPOA-RD-KFO, POA" <CEPOA-RD-Kenai@usace.army.mil>
Subject: Corps relocates Regulatory field office from Kenai to Soldotna, new contact info (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hello,

The U.S. Army Corps of Engineers-Alaska District has completed the relocation of its regulatory field office on the Kenai Peninsula to its new location at 44669 Sterling Highway, Suite B, in Soldotna. Previously, the office was located at 805 Frontage Road in Kenai.

The field office conducts wetland delineations, jurisdictional determinations, and pre-application coordination meetings, as well as evaluating permit applications and enforcement activities for the Kenai Peninsula, Lake and Peninsula, Kodiak Island, Bristol Bay and Aleutians East boroughs, and the Aleutians West Census Area.

The Corps regulatory program's mission is to protect the nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. Activities requiring permits include filling wetlands, streams, marine waters, lakes and other waters; mechanized land clearing in the wetlands; and work in or affecting navigable waters, like dredging or pile-supported structures.

For more information, contact the Kenai Field Office by calling 907-753-2689, emailing CEPOA-RD-Kenai@usace.army.mil or faxing 907-420-0813.

The Alaska District Regulatory Division headquarters is located at Joint Base Elmendorf-Richardson. In addition to the Kenai Peninsula, it operates field offices in Juneau, Fairbanks and has a project manager assigned for Sitka. The Alaska District's Regulatory Division headquarters can be reached at 1-800-478-2712.

Have good day.

Sincerely,

Katie McCafferty
Project Manager
Direct: 907-753-2692

U.S. Army Corps of Engineers-Alaska District
Regulatory Division, Kenai Field Office
44669 Sterling Highway, Suite B
Soldotna, AK 99669-7915

general office phone number: 907-753-2689

fax: 907-420-0813

website: <http://www.poa.usace.army.mil/Missions/Regulatory.aspx>

general office email: CEPOA-RD-Kenai@usace.army.mil

Classification: UNCLASSIFIED

Caveats: NONE

From: Michael Yarborough <salvagerecovery@gmail.com>
Sent: Friday, May 15, 2015 5:18 PM
To: Judy Bittner; Duvall, Shina A (DNR); Sherry Kime; Frank Winchell; Lesli Schick; Mark Luttrell; jbrune@ciri.com
Cc: Mike Salzetti; Warnock, Cory; Andersen, Emily
Subject: Grant Lake Hydroelectric Project (FERC No. 13212) Historic Properties Management Plan
Attachments: PRIVGrant Lake HPMP draft 05-15-15 FINAL.pdf

All

I am sending this email on behalf of Homer Electric Association, Inc. (HEA) to invite comment on a draft Historic Properties Management Plan (HPMP) for the Grant Lake Hydroelectric Project. Our last discussion, on March 21, 2014, focused on review of past consultation, the 2014 cultural resources study report, and the Iditarod National Historic Trail (INHT).

An electronic version of the HPMP is attached to this email. HEA will also be distributing other management and monitoring plans for review later today. The Draft License Application (DLA) has been filed with FERC and distributed via multiple mechanisms to stakeholders and the interested public on March 27, facilitating a 90-day review period, with comments due on or before June 25, 2015. As part of that transmittal, KHL made a commitment to distribute the draft management/monitoring plans and biological evaluation soon thereafter to allow enough time for a parallel review and comment period.

HEA requests that all comments on the HPMP also be submitted on or before June 25, 2015.

We are not currently planning another Cultural Resources Working Group meeting, in part due to the difficulty of finding a time when all the members of the group could attend. However, an in-person or teleconference meeting can be arranged in the future if members of the group feel it would be beneficial.

Thank you in advance for your ongoing participation,

Mike

--

Michael R. Yarborough
Senior Archeologist
Cultural Resource Consultants LLC
3504 E. 67th Avenue

NOTE: Because of the potentially sensitive nature of the information regarding Cultural Resources, the Historic Properties Management Plan (HPMP) attached to the May 15, 2015 email to the Cultural Resources Work Group (CRWG) is not being distributed to the general public. This document may be obtained by request to Homer Electric Association (HEA) or Federal Energy Regulatory Commission (FERC), subject to confidentiality provisions.

From: Warnock, Cory
Sent: Friday, May 15, 2015 3:39 PM
To: 'Monte Miller'; 'Patricia Berkahn (patricia.berkahn@alaska.gov)'; 'Joe Klein'; 'Ginny Litchfield (ginny.litchfield@alaska.gov)'; 'Jason Mouw'; Begich, Robert N (DFG); 'Judy Bittner'; shina.duvall@alaska.gov; carl.reese@alaska.gov; Schade, David W (DNR); 'Lesli Schick (lesli.schick@alaska.gov)'; 'Robin Swinford'; Thomas, Ryan J (DNR); sfishergoad@aidea.org; Daniel J. Hertrich; david.griffin@alaska.gov; 'pamela.russell@alaska.gov'; jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; 'Gary Fandrei'; keeper@inletkeeper.org; painter@arctic.net; 'Doug Mutter'; phillip_johnson@ios.doi.gov; joe.darnell@sol.doi.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; douglas.johnson@ferc.gov; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'Paul Torgerson (paul@grantlakemining.com)'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; kna@alaska.net; ricky@krsa.com; 'exec@kenaitze.org'; 'Brenda Trefon'; mmueller@kpb.us; ikerdhome@gmail.com; DMahalak@borough.kenai.ak.us; jczarnezi@borough.kenai.ak.us; jmohorci@borough.kenai.ak.us; admin@moosepassalaska.com; 'jan@hydroreform.org'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; info@salamatof.com; johnb@ssraa.org; tbristol@tu.org; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Denise Koopman (denise.koopman@usace.army.mil)'; CEPOA-RD_Kenai@usace.army.mil; rbirk@fs.fed.us; 'Kevin Laves (klaves@fs.fed.us)'; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'jeavis@fs.fed.us'; 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); 'Lynnda Kahn'; socheata_lor@fws.gov; frances_mann@fws.gov; Jeffry Anderson; 'Phil Brna'; ak_fisheries@fws.gov; 'Brent Goodrum'; 'waterlaw@uci.net'; Katharine Glaser; jjodhner@arctic.net; claireshipton@gmail.com; info@chenega.com; president@eklutna-nsn.gov; 'ntc@ninilchiktribe-nsn.gov'; 'Kime, Sherry D -FS'; mike@alaska-energy.com; irene@arctic.net; bearimage.dw@gmail.com; katie.johnson@alaska.gov; jslang11@yahoo.com; pm99588@yahoo.com; peruprairie@hotmail.com; andbacon2@yahoo.com; dyrkss@yahoo.com; jestes@cityofseward.net
Cc: 'Mike Salzetti'; Zubeck, Brad; Janorschke, Brad; 'JGallagher@HomerElectric.com'; Andersen, Emily; McMillen, Morton D.; Warnock, Cory
Subject: Draft Grant Lake Project (P-13212) Management Plans
Attachments: Grant Lk OM Compliance Plan Draft 05-15-15 FINAL.PDF; Grant Lk Avian Protection Plan Draft 05-15-15 FINAL.PDF; Grant Lk Veg Management Plan Draft 05-15-15 FINAL Public.pdf; Grant Lake BE Plants Draft 05-15-15 FINAL.PDF

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

Per KHL's commitment, I am attaching three draft Grant Lake management and monitoring plans (Plans) and a Biological Evaluation (BE) for your review/comment. These Plans and BE are:

- Draft Grant Lake Operation Compliance Monitoring Plan
- Draft Grant Lake Avian Protection Plan
- Draft Grant Lake Vegetation Management Plan (Public Version)

- Draft Grant Lake Biological Evaluation for Plants

Additional documents that have been developed and are being sent to the appropriate entities for review and comment based on either their privileged or content specific nature include:

- Draft Grant Lake Historic Properties Management Plan
- Draft Grant Lake Vegetation Management Plan (Privileged Version)
- Clean Water Act Section 404 Application (Army Corps of Engineers)

In addition to all of the documents mentioned above, a Draft Biotic Monitoring Plan is in the final phases of development and will be distributed for public review and comment shortly. Per previous communications, it continues to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27, 2015 which formally began a 90 day review period which will conclude on June 25, 2015. It is KHL's desire to receive comments from not only the DLA by this date but also the Plans and BE. This will assist in facilitating an efficient comment review and document modification process and ultimately allow us to develop the most comprehensive and collaborative Final License Application for FERC review.

KHL will be filing these Plans and BE with FERC and placing the public documents on the Kenai Hydro website to provide additional mechanisms for download and review. At the risk of being redundant, I'm also copying the instructions I provided for accessing the DLA from FERC eLibrary (see below). With respect to comment responses, if you would like to submit comments in written form, send them to the following address and reference the FERC Project Number (P-13212):

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Instructions For Accessing the Management/Monitoring Plans and BE via FERC eLibrary

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between May 15th and May 25th. This will ensure that the DLA filing is included in your request.
- Under the "Library" category, make sure "Hydro" is selected.
- Under the "Docket Number" category, enter "P-13212"
- Click "Submit" at the bottom of the page.
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific plans that you'd like to review, select the .pdf option and the selected file will open on your computer.

As always, if there are any questions, please don't hesitate to contact me.

Thanks.

Cory Warnock
Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

Grant Lake Hydroelectric Project (FERC No. 13212)

***Operation Compliance Monitoring Plan
Draft***

Kenai Hydro, LLC

May 2015

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Acronyms and Abbreviations

ADF&G	Alaska Department of Fish & Game
ARRC	Alaska Railroad Corporation
BMP	Best Management Practices
cfs	cubic feet per second
°C	degrees Celsius
DLA	Draft License Application
ECM	Environmental Compliance Monitor
FERC	Federal Energy Regulatory Commission
HVAC	heating, ventilating, and air conditioning
INHT	Iditarod National Historic Trail
KHL	Kenai Hydro, LLC
kV	Kilovolt
kW	Kilowatt
MW	Megawatt
NAVD 88	North American Vertical Datum of 1988
OCMP or Plan	Operation Compliance Monitoring Plan
Project	Grant Lake Hydroelectric Project
RM	river mile
USGS	United States Geological Survey

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Operation and Compliance Monitoring Plan

Draft

Grant Lake Hydroelectric Project (FERC No. 13212)

1 INTRODUCTION

This document provides a draft of Kenai Hydro, LLC's (KHL) proposed Operation Compliance Monitoring Plan (OCMP or Plan) for the Grant Lake Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) No. 13212. Activities associated with the proposed construction and operation of the Project include the diversion of water from an intake structure at Grant Lake for power generation and creating a bypass reach (Reach 5) of approximately 0.5 miles. The diversion of Grant Lake water will also alter the pre-Project streamflow hydrograph, but is being designed to maintain the seasonal water temperature regime of Grant Creek downstream of the powerhouse.

This draft OCMP has been developed to provide instream flows to the bypass reach. Secondly, the monitoring of flows and temperatures in Grant Creek below the powerhouse will insure that the Project is operating within defined parameters established to protect aquatic resources. The development of this document is a collaborative process in which KHL is establishing key monitoring and operational parameters based on agency responses to the aquatic and water resources study reports conducted in 2013 as part of the Project licensing process (KHL 2014a, 2014b, and 2014c).

1.1. Location

The proposed Grant Lake Project will be located near the community of Moose Pass, Alaska (population 219) in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska (population 2,693), and just east of the Seward Highway (State Route 9); this highway connects Anchorage (population 291,826) to Seward. The Alaska Railroad (ARRC) parallels the route of the Seward Highway, and is also adjacent to the Project area. Grant Lake is located in the mountainous terrain of the Kenai Mountain Range and has a normal water surface elevation of 703 feet North American Vertical Datum of 1988 (NAVD 88) and surface area of approximately 1,703 acres. A map showing the location of the Project is provided in Figure 1.¹

1.2. Project Description

The Grant Lake Project will consist of the Grant Lake/Grant Creek development, an intake structure in Grant Lake, a tunnel, a surge chamber, a penstock, a powerhouse, tailrace channel

¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in some of the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

with fish exclusion barrier, access roads, a step-up transformer, a breaker, a switchyard, and an overhead transmission line. The powerhouse will contain two Francis turbine generating units with a combined rated capacity of 5 megawatts (MW) with a maximum design flow of 385 cubic feet per second (cfs). The general proposed layout of the Project is shown in Figure 2.

1.2.1. Grant Creek Diversion

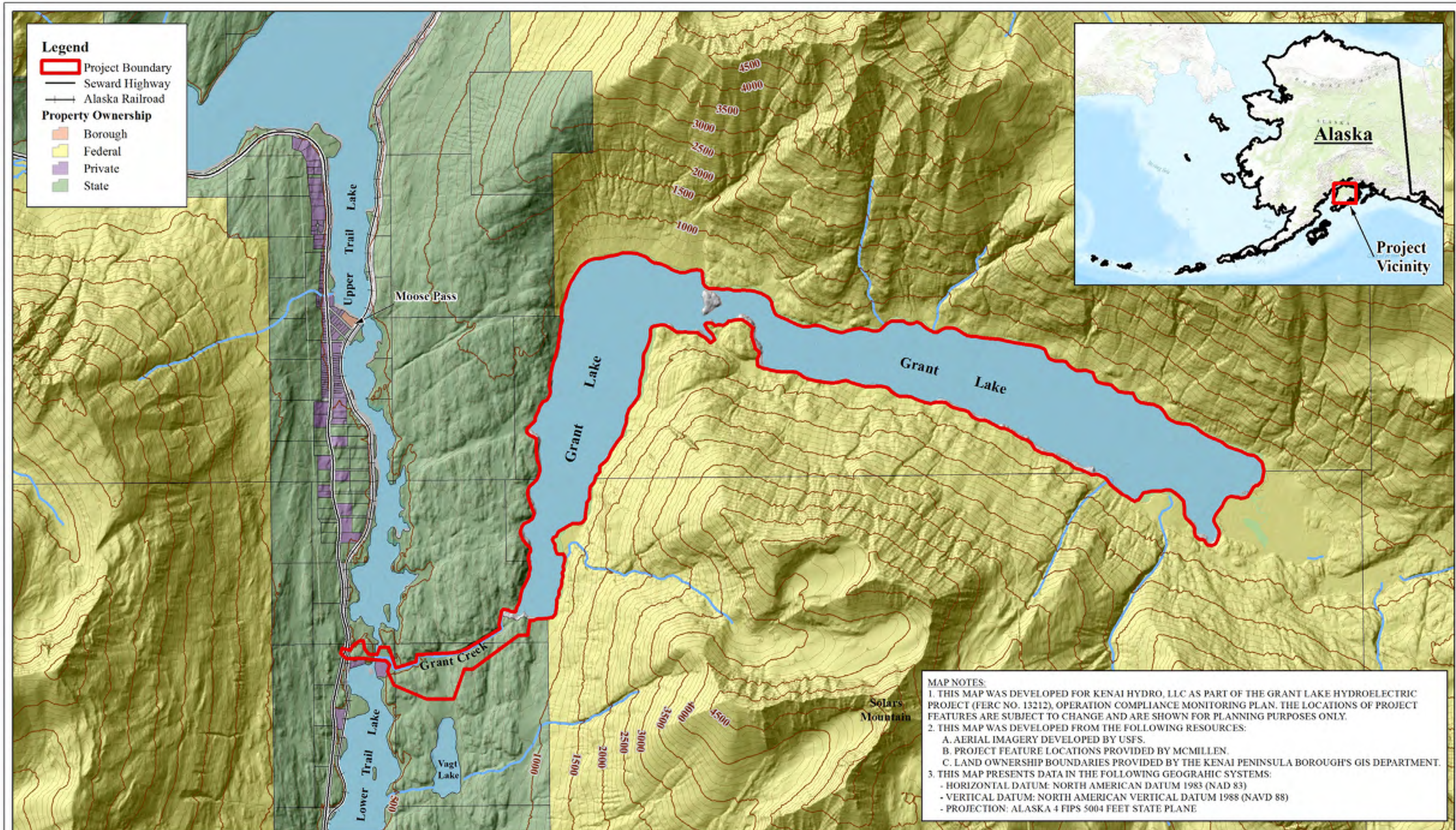
The proposed Project consists of a reinforced concrete intake structure located on the south side of the natural lake outlet. No structural modifications would be made to the existing lake natural outlet. The Project will divert water up to a maximum of 385 cfs into the intake structure. When the lake level exceeds the natural outlet of 703 feet NAVD 88, a maximum of 385 cfs will be diverted into the intake structure and routed to the powerhouse. Flow in excess of 385 cfs would pass over the natural outlet to Grant Creek.

1.2.2. Grant Lake Intake

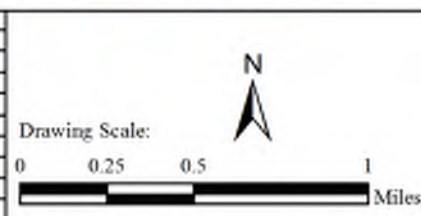
The Project water intake would be a concrete structure located approximately 500 feet east of the natural outlet of Grant Lake and adjacent to the shore. The intake structure consists of a reinforced concrete structure extending from approximately elevation 675 NAVD 88 feet up to a top deck elevation of 715 feet NAVD 88. The structure has an outside dimension of 38 feet by 20 feet. The structure includes intake trashracks, selective withdrawal intake gates with wire rope hoist, and a roller gate located on the water conveyance intake. The intake is divided into three bays, each fitted with an intake gate to provide flexibility for delivering the full flow range of 58 cfs to 385 cfs. The gate position within the water column will be set to deliver the required water temperature to Grant Creek below the powerhouse. The roller gate would be 11 feet tall by 11 feet wide and fitted with a wire rope hoist lift mechanism. Electrical power will be extended from the powerhouse to the intake to operate the intake and isolation gates. Pressure transducers will be installed to monitor the water level at the lake as well as within the intake tower. An access bridge 16 feet wide would be installed from the lake shore out to the intake structure.

The intake would allow for drawdown of Grant Lake to elevation 690 feet NAVD 88 thereby creating approximately 18,790 acre-feet of active storage for the Project between elevations 703 feet NAVD 88 and 690 feet NAVD 88. The intake can be designed to allow the Project to draw water near the surface at various levels of storage, if deemed necessary to meet downstream temperature requirements. The invert of the intake would be at elevation 675 feet NAVD 88 to provide for adequate submergence to the tunnel.

A bypass pipe would extend from the intake structure to the base of the existing water fall in Grant Creek. The installed pipe would be 900 feet long and approximately 18 inches in diameter allowing the minimum flow ranging from 5 to 10 cfs to be released. A control gate would be located within the intake structure to regulate and monitor the bypass flow releases.



REV	DATE	BY	DESCRIPTION



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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

OPERATION COMPLIANCE MONITORING PLAN

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

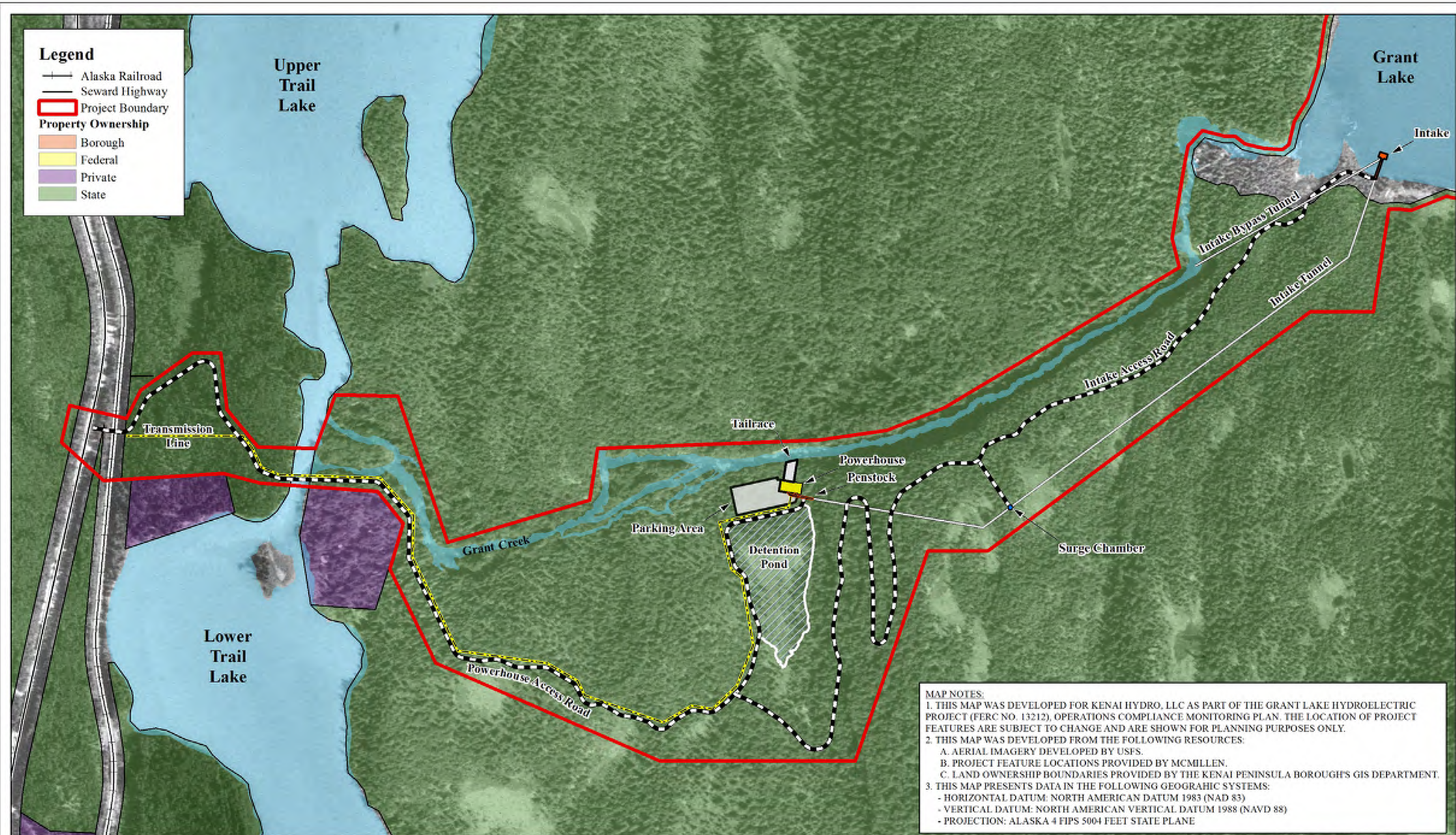
DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 4/29/2015

DRAWING

SCALE: 1:35,000



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1.2.3. Tunnel and Surge Chamber

The intake structure would connect to a tunnel extending to the Project powerhouse. The tunnel would be approximately 3,300 feet long with a 10-foot-horseshoe shape. Drill and shoot techniques would be used to construct the tunnel using an entrance portal at the powerhouse for access. The lower 900 feet of tunnel would be constructed at a 15 percent slope. This section of the tunnel will be concrete lined. The upper 2,400 feet of tunnel would be constructed at a 1 percent slope and would be unlined. This proposed arrangement provides a low pressure hydraulic conduit in the upper tunnel reaches suitable for an unlined tunnel. A surge chamber is located at the transition between the two tunnel slopes. This chamber is approximately 10 feet in diameter and would extend from the tunnel invert elevation of 670 feet NAVD 88 to the ground surface at approximately elevation 790 feet NAVD 88. The surge chamber provides a non-mechanical relief for hydraulic transients that could occur if a load rejection occurs at the powerhouse. Rock anchors and shotcrete stabilization techniques would be used to stabilize the tunnel exposed rock surface where required. A rock trap would be located at the surge chamber location to collect dislodged rocks from the unlined tunnel section.

The tunnel would transition to a 6-foot diameter steel penstock approximately 150 feet from the powerhouse. The transition section would consist of a welded steel concentric structure which transitions from the 10-foot tunnel section to the 72-inch diameter penstock. A steel liner would extend from the downstream tunnel portal approximately 300 feet into the tunnel. The liner would be installed within the exposed rock surface with grout pumped behind the liner to provide an impermeable and structurally sound tunnel section. A similar steel tunnel liner section would be installed at the connection to the intake structure for a total distance of approximately 150 feet.

1.2.4. Penstock and Surge Tank

A 72-inch diameter steel penstock extends 150 feet from the downstream tunnel portal to the powerhouse. The welded steel penstock would be supported on concrete pipe saddles along the penstock route. The penstock would bifurcate into two 48 inch diameter pipes feeding each of the powerhouse turbines. The penstock fitted with welded steel thrust rings would be encased in concrete thrust blocks at the tunnel portal as well as the powerhouse. These thrust blocks would be designed to resist the full hydraulic load associated with the Project operation. An interior and exterior coating system would be applied to the penstock providing full corrosion protection. An access manway would be provided on the exposed penstock section allowing access for future inspection and maintenance.

1.2.5. Tailrace

The powerhouse draft tubes would connect to a tailrace channel located on the north side of the powerhouse structure. The draft tubes would extend from a low point elevation of approximately 509 feet NAVD 88 up to the tailrace channel invert elevation of 515 feet NAVD 88. The channel would continue to the east bank of Grant Creek. Each of the draft tubes will be gated allowing the flow to be routed to the detention pond for spinning reserve operation. Isolation bulkheads would be provided allowing dewatering of the draft tubes for inspection and maintenance of the turbine. The tailrace channel would be trapezoidal in shape with a bottom

width of 43 feet, side slopes of 2H:1V and a channel depth ranging from 13 feet at the powerhouse to 7 feet at the creek. A concrete structure would be constructed at the confluence of the channel and Grant Creek. A picket-style fish barrier would be placed on this concrete structure as well as provision for installation of stoplogs allowing the tailrace channel to be dewatered for inspection and maintenance. The channel would be excavated from native material and lined with riprap to provide a long term stable section. A staff gage and pressure transducer will be placed in the channel to monitor the water level in the channel.

1.2.6. Tailrace Detention Pond

An off-stream detention pond would be created to provide a storage reservoir for flows generated during the rare instance when the units being used for spinning reserve are needed for the electrical transmission grid. In this situation, the additional powerhouse flows would be diverted into the detention pond and then released slowly back into Grant Creek. It is anticipated that the discharge associated with a spinning reserve event would be dispersed via the tailrace channel which flows into Grant Creek. The detention pond would be located immediately south of the powerhouse and would have a capacity of approximately 15 acre-feet and a surface area of approximately 5 acres.

1.2.7. Powerhouse

The powerhouse would be located on the south bank of Grant Creek immediately west of the downstream tunnel portal and adjacent to the detention pond. The powerhouse would consist of a concrete foundation and a pre-engineered metal building superstructure. The building would be approximately 100 feet long (east to west) and 50 feet wide (north to south). The penstock would tie into the powerhouse on the south side and the tailrace channel on the north side of the building. The building floor would be set at approximately elevation 523 feet NAVD 88 and the centerline of the turbine runner at elevation 526 feet NAVD 88. The draft tube floor would be set at elevation 509 feet NAVD 88 with an operating tailwater inside the draft tubes ranging from 518.0 feet to 519.3 feet NAVD 88.

Two horizontal Francis type turbine/generator units with a rated total capacity of 5,000 kilowatt (kW) would be housed in the powerhouse structure. The powerhouse flow would range from a maximum of 385 cfs to a minimum of 58 cfs with each turbine operating flow ranging from 192.5 cfs to 58 cfs. Associated mechanical and electrical equipment would include hydraulic power units, turbine isolation valves, penstock drain, utility water system, lube oil system, oil water separator, battery system, and heating, ventilating, and air conditioning (HVAC) system. A control room housing the motor control center, communication rack, fiber optic panels, computers, and related equipment would also be provided. The Project switchgear would be located within the powerhouse. A standby generator, transformer, and fused pad mounted switch assembly would be mounted on an enclosed switchyard located on the south side of the powerhouse. Dewatering pumps would be provided to support dewatering of the turbine draft tubes. A 30-ton bridge crane would be provided for equipment maintenance. The crane would travel on rails mounted on the steel building support columns. An energy dissipation valve would extend off the penstock and provide bypass flows into the Project tailrace.

1.2.8. Transmission Line/Switchyard

An overhead 115-kilovolt (kV) transmission line will extend from the powerhouse to the existing 115-kV transmission line located on the east side of the Seward Highway. In addition to overhead transmission structures, the facilities would include a switchyard at the powerhouse consisting of a 115-kV fused pad-mounted disconnect switch and a pad-mounted 115-kV GSU transformer. The transmission line would run from the powerhouse parallel to the access road where it would intersect Chugach Electric's transmission line. The interconnection would have a pole mounted disconnect switch.

Wooden poles would be designed as tangent line structures on about 250-foot centers. Design of the line would also incorporate the latest raptor protection guidelines. Collision avoidance devices would be installed on the line at appropriate locations to protect migratory birds.

1.2.9. Appurtenant Facilities

The following pertinent mechanical and electrical equipment will be applicable to the Project:

- Intake selective withdrawal intake gate
- Intake trashrack system
- Intake roller gate used to isolate the tunnel and downstream generation facilities
- Control gate located on the bypass pipeline pipe
- A 30-ton bridge crane in the powerhouse
- Pumps located in the powerhouse used to dewater the draft tubes
- Pressure transducers located throughout the Project used to monitor the water level in the reservoir, tunnel and tailrace, as well as pressures in the tunnel and penstock
- Security cameras at the intake and powerhouse
- Sanitary waste holding tank at the powerhouse
- A power line extending from the powerhouse to the intake to supply electrical power to the gates and trashrack
- Temperature instrumentation at the intake structure and at various stream locations to monitor water temperature

This equipment along with other identified miscellaneous mechanical and electrical equipment will be developed during the final design and included in the construction documents.

1.2.10. Access Roads

The Project would require an access road to both the powerhouse located near the base of the Grant Creek canyon and to the intake at Grant Lake. The access road would be used to construct the Project and afterwards, to maintain the facilities. It is anticipated that the powerhouse would be visited approximately once a week and the intake visited approximately once a month beginning just after the ice melts and continuing until just before freeze up. The powerhouse access road would be maintained year around. The intake access road would not be maintained in winter.

The 24-foot wide access road would tie into the Seward Highway at approximately MP 26.9. The route would travel eastward to cross Trail Lakes at the downstream end of the narrows between Upper and Lower Trail lakes and then continue eastward to the powerhouse. This route would be approximately one mile long. It would cross the ARRC tracks near an existing railroad crossing for a private driveway. The road would cross the narrow channel connecting Upper and Lower Trail lakes with an approximately a 110-foot-long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The proposed route would avoid cuts and travel along the base of some small hills on the south side of Grant Creek to the powerhouse. This proposed access road would have one 90-degree crossing of the Iditarod National Historic Trail (INHT).

The intake access road would be approximately one mile long, beginning at the powerhouse. The road would ascend a 230-foot bluff to reach the top of the southern rim of the Grant Creek canyon. A series of road switchbacks would be required to maintain a road grade of less than 8 percent. The road would then generally follow the southern edge of the canyon until it descends to Grant Lake. A small parking area and turn-a-round area would be provided at the intake structure. A 16-foot wide bridge will extend from the bank out to the intake structure.

The road would be gravel with a 16-foot top width. Maximum grade would be 8 percent. Periodic turnouts would be provided to allow construction traffic to pass. Fifty-foot radius curves would be used to more closely contour around the small steep hills of bedrock to limit the extent of the excavation and the height of the embankments.

1.2.11. Project Operations

Once constructed, the Project will operate to generate power throughout the calendar year based on inflow, available storage, lake elevation, and minimum flow requirements with Grant Creek. The lake will operate from the natural Grant Lake outlet elevation of 703 feet NAVD 88 down to a minimum lake elevation of 690 feet NAVD 88. The lake will be drawn down in the winter months utilizing a combination of Grant Creek inflows and stored water to meet the instream flows in the bypass reach while also maintaining power production. Water flow predictions will be used to estimate snowpack and the corresponding runoff volume. The Project operation will then be tailored to maximize winter power production while also ensuring the lake refills to elevation 703 feet NAVD 88.

2 PROJECT OPERATIONAL AND MONITORING REQUIREMENTS

2.1. Background and Objectives

Following a series of natural resource studies conducted in 2013 and consultation with stakeholders, certain physical conditions (i.e. instream flows and water temperature) were discussed as critical to minimizing impacts to biological and water resources. Key study results as well as generic operational expectations were the following:

- Established relationships between flow and habitat so that Project operations shall not diminish available habitat for resident and anadromous fish species.
- Grant Lake temperatures at shallow depths of 0.5 meters and 1.5 meters most closely resemble water temperatures in Grant Creek. Project waters should be diverted from these depth strata so that the thermal regime of Grant Creek matches pre-Project conditions.

The objective of the OCMP is to insure a comprehensive and adaptive operational scenario that insures recommended instream flow and temperature regimes for the Project are provided. The OCMP outlines the responsibilities of KHL to properly release, monitor, and report instream flows and water temperatures affected by the Project while addressing agency concerns. The OCMP also outlines the necessary procedures taken during potential emergency situations, project maintenance, and non-compliance events.

2.2. Proposed Project Operation

KHL proposes to utilize 18,790 acre-feet of net storage for power production. Waters diverted or spilled from Grant Lake will follow one of three outflow route options. Waters to be utilized for power production will be conveyed to the powerhouse via an intake, tunnel and penstock along the southeastern bank of Grant Creek. The powerhouse shall return all water to the alluvial reach of Grant Creek where it shall flow downstream approximately 0.5 miles to its natural sequence of Trail Lake Narrows, Lower Trail Lake, Trail River, and Kenai Lake. The second flow route shall divert Grant Lake water to the base of the bedrock waterfall at the outlet of Grant Lake and serve as the primary source for bypass flow volumes in the bypass reach. After entering river mile (RM) 1.0 of the Grant Creek system, bypass flows progress down the 0.5 mile bypass reach before converging with waters at the tailrace of the Grant Lake powerhouse. A third routing option occurs when inflows to Grant Lake exceed the plant capacity of 385 cfs and bypass flow requirements of 5-10 cfs (seasonally dependent). Under these conditions water shall be spilled over the natural Grant Lake outlet and be conveyed the entire 1.0 mile length of the Grant Creek channel.

The Project proposes to annually vary reservoir levels by 13 feet. Typical full pool elevations and volumes of 703 feet NAVD 88 and 251,920 acre-feet will be maintained, while minimum lake levels will be decreased from natural conditions to an elevation of 690 feet NAVD 88 and 233,130 acre-feet.

Details of the annual reservoir level fluctuation for Grant Lake are summarized below:

- January 1-May 15: Lowering of reservoir levels (drafting) for power production and bypass flows. Outflow exceeds inflow.
- May 15-May 31: Maintain minimum reservoir level of 690 feet NAVD 88. Only inflow to Grant Lake available for power production and bypass flows.
- June 1-August 15: Raising of reservoir levels (filling). Inflows exceed outflow for power production and bypass flows.
- August 16-October 31: Maintain maximum reservoir level of 703 feet NAVD 88. Only inflow to Grant Lake available for power production and bypass flows.

- November 1-December 31: Lowering of reservoir levels (drafting) for power production and bypass flows. Outflow exceeds inflow.

2.3. Proposed Grant Lake Level Requirements

The Project does not intend nor have the infrastructure to raise lake elevations above 703 feet NAVD 88. The Project will be required to insure lake levels do not drop below the proposed minimum elevation of 690 feet NAVD 88. Seasonal reservoir elevations shall adhere to the general guidelines summarized in Section 2.2.

2.4. Proposed Grant Creek Instream Flow Requirements

KHL held a collaborative workshop in Anchorage, Alaska on July 8, 2014 during which, the following instream flow regime for the bypass reach of Grant Creek (RM 0.5-1.0) was proposed.

Dates	Diversion Flow to Bypass Reach
January 1 – July 31	5 cfs
August 1 – September 7	10 cfs
September 8 – October 31	7 cfs
November 1 – December 31	5 cfs

Water used for power production would be returned to Grant Creek at the downstream end of the Canyon Reach (RM 0.5). For the tailrace reach (RM 0.0-0.5), peak flow events would be reduced in the summer while winter flows would be slightly elevated from pre-Project conditions. From approximately August 16 through October 31, inflow volumes would match outflows downstream of the powerhouse. Figure 3 displays the annual hydrograph of the proposed Project and pre-Project flow volumes. Although there will be no specific instream flow requirements for the tailrace reach, flows will be monitored to assess the deviation from pre-Project conditions.

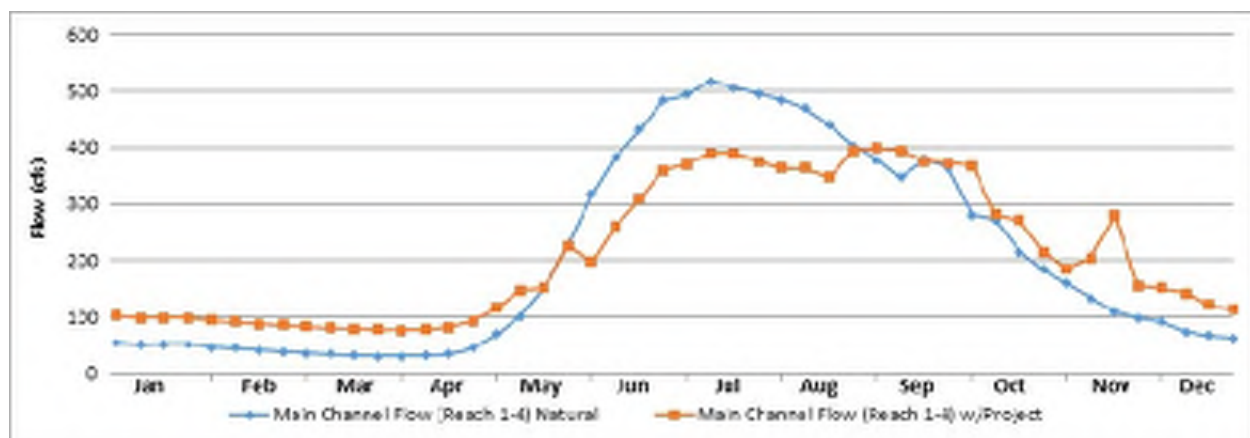


Figure 3. Grant Creek annual flow hydrographs tailrace reach - natural vs. proposed project.

2.5. Proposed Grant Lake and Grant Creek Temperature Requirements

The correlation of Grant Creek stream temperatures with the shallow depths of Grant Lake are detailed in the Water Resources Study Report (KHL 2014c) and summarized in Table 1. Based on these data, the Project will divert waters from Grant Lake to the bypass reach or the powerhouse at either 0.5 m or 1.5 m below the water surface elevation of Grant Lake. KHL will monitor temperature at select locations throughout the Project area to insure monthly lake and creek temperatures agree within 1 degree Celsius (°C).

Table 1. 2009-2014 mean monthly temperatures at Grant Lake depths of 0.5 m and 1.5 m and Grant Creek.

Month	Average Temperature (°C)		
	Grant Lake 0.5 m	Grant Lake 1.5 m	Grant Creek
January	1.0	2.2	1.2
February	1.2	2.4	1.5
March	1.4	2.6	1.6
April	1.4	2.8	1.9
May	4.8	5.2	5.1
June	9.3	8.7	8.9
July	11.9	11.4	11.5
August	12.3	12.0	12.2
September	10.8	10.7	10.4
October	6.9	6.9	6.8
November	4.0	4.1	3.6
December	1.3	2.0	1.0

Notes:

1 Shaded cells indicate best correlation of lake and stream temperatures.

3 LAKE LEVEL FLOW AND TEMPERATURE MONITORING

The location of all proposed monitoring stations within the Project boundary are summarized in Figure 4. Additional details of each monitoring station are provided in the sections below.

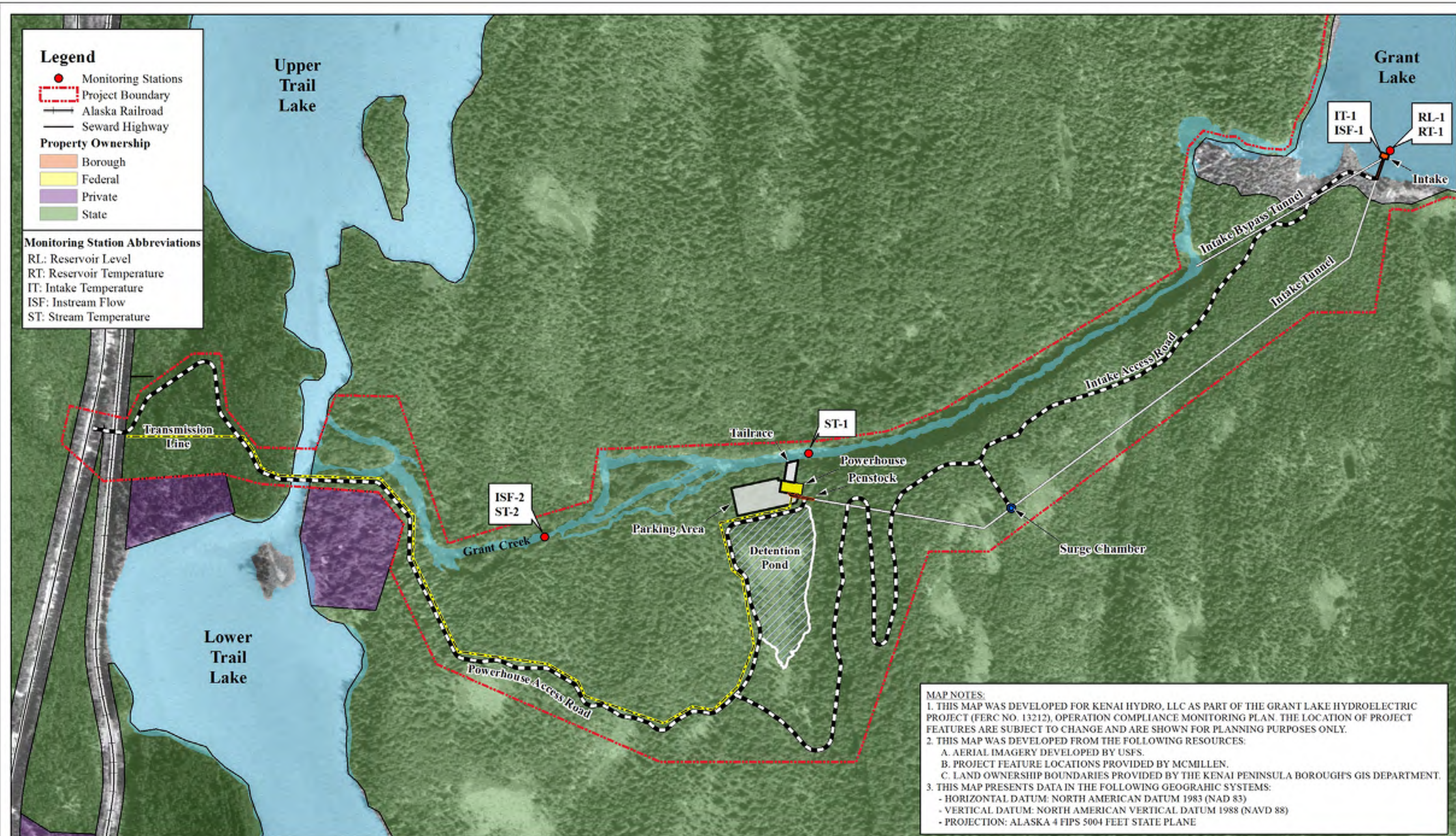
3.1. Level and Temperature Monitoring - Grant Lake

At the Grant Lake intake structure, KHL will install appropriate instrumentation to monitor water surface elevations (Station RL-1). Utilizing this information, the real time control system will calculate reservoir stage measurements. KHL will also install water temperature monitoring instrumentation to detect and record reservoir temperatures upstream of the intake structure as well as inside of the intake structure (Stations RT-1 and IT-1). The intake structure instrumentation information will be transmitted to the control system located in the powerhouse via a fiber optic link. The powerhouse will be linked to the HEA Dispatch Center via a telemetry system (e.g. landline, cellular, satellite) to transmit appropriate supervisory control and data acquisition signals.

The control system will continuously monitor Grant Lake water temperatures. The water temperatures at this site will be used, in combination with temperature data from the lower bypass reach of Grant Creek (Station ST-1), to meet temperature criteria described in Section 2.5. Lake level and associated water temperature data will be collected for the duration of the licenses term. All data will be summarized and documented as part of the annual compliance report/meeting process described in Section 4. If deviations in temperature of more than 1 °C are documented, KHL will determine the reason and if it is determined to be the result of infrastructural or operational considerations as opposed to anomalous natural conditions, the stakeholder group associated with the Annual Compliance Report will be consulted during the annual process and modifications to the operational regime will be agreed upon to confirm that temperature conditions are adhered to.

3.2. Flow and Temperature Monitoring - Grant Creek Bypass Reach

Measurements of flow volumes at the bypass pipe will start at commencement of Project operations and will ensure compliance with the minimum required flow releases of 5-10 cfs (Station ISF-1). Diversion flows will be measured at the intake structure utilizing a telescoping weir to provide flow volumes to the bypass tunnel. The overflow weir is an accurate flow measurement system that will also allow for adjustments in bypass flows to be instantaneously quantified.



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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212		DESIGNED: Jake Woodbury	DRAWING
OPERATION COMPLIANCE MONITORING PLAN		DRAWN: Jake Woodbury	
Figure 4		CHECKED: C. Wasson	
Proposed Lake Level, Streamflow, and Temperature Monitoring Stations in the Project Vicinity		ISSUED DATE: 5/4/2015	SCALE: 1:5,000

Temperatures will be monitored at the downstream end of the bypass reach (Station ST-1). Measurements of Grant Creek water temperatures will be taken every hour to calculate mean daily temperature values. In addition to internal or local storage of data, the temperature instrumentation will be connected to the powerhouse control system. The water temperatures at ST-1 will serve as the location that establishes reference temperatures. All diverted water from Grant Lake will be adjusted to meet temperature criteria described in Section 2.5 – Proposed Grant Lake and Grant Creek Temperature Requirements. Instream flow and associated water temperature data will be collected for the duration of the licenses term. All data will be summarized and documented as part of the Annual Compliance Report process described in Section 4. If inconsistencies associated with KHL’s instream flow or water temperature requirements are documented, KHL will determine the reason and if it is determined to be the result of infrastructural or operational considerations as opposed to anomalous natural conditions, the stakeholder group associated with the Annual Compliance Report will be consulted during the annual process and modifications to the operational regime will be agreed upon to confirm that temperature conditions are adhered to.

3.3. Flow and Temperature Monitoring-Grant Creek Tailrace Reach Flow

As part of the 2013 licensing studies, KHL installed a United States Geological Survey (USGS)-approved stage recorder to monitor streamflows. The stream gage is at the same location as USGS Gage No. 15246000, which was operational from 1947-1958. The current stream gage was serviced and calibrated from April 2013 to December 2014, extending the period of record and establishing a reliable stage-discharge rating equation (KHL 2014c). The gauge was then re-established in February 2015 with the intent of KHL maintaining for the duration of the license. The gage is currently equipped with a self contained bubbler system utilizing an H-3553 pump transducer and an H-500XL data recorder manufactured by Design Analysis Associates, Inc. Once the powerhouse is built and the Project commissioned, this system will add a thermistor to the H-500XL data recorder and connect into the powerhouse control system. Measurements of Grant Creek stage and temperature in the tailrace reach will be collected every 15 minutes to summarize mean daily flow and temperature values. Photos of the existing stream ISF-2 stream gage are provided in Figure 5. The Grant Creek stream gauge will be operated and maintained for the duration of the license term. All streamflow data will be summarized and documented as part of the Annual Compliance Report process described in Section 4.



Figure 5. Monitoring equipment at Station ISF-2.

3.4. Failsafe Provisions

Failsafe provisions will be provided in project design and operation to ensure that flows are provided continuously to Grant Creek during maintenance periods and any emergency project shutdowns.

1. Bypass flow: The instream flow release pipe will be continuously open to appropriately accommodate the required instream flow. An 18-inch diameter pipeline will be installed using directional bore techniques from the new intake structure in the lake to the base of the falls. An overflow weir and control gate will be installed in the intake to allow controlled release of water from the reservoir to the base of the falls. The water will be pulled from the surface of the lake to maintain consistent temperature conditions at the base of the falls and within the bypass reach. The amount of flow released will be controlled through the overflow weir in the intake where accurate flow measurement can be accomplished.
2. Powerhouse: An energy dissipation bypass valve is provided at the powerhouse to allow flow discharge in the event that the powerhouse is not connected to the transmission grid or an outage is required for the turbine/generator equipment. The energy dissipation valves discharges directly into the project tailrace providing flow to Grant Creek. The energy dissipation bypass valve will open automatically to maintain flows in Grant Creek as the turbine is brought offline during an emergency operating procedure. For normal startup and shutdown operation, the powerhouse bypass valve will be opened in step with the turbine shutdown to maintain the required flow regime in Grant Creek.

3.5. Schedule for Installing, Maintaining, and Collecting Flow and Temperature Instrumentation

All temperature and water level monitoring equipment will be installed during Project construction and be operational before the Project operations commence. Maintenance and calibration of all monitoring equipment will occur per manufactures specifications to ensure

instrumentation accuracy and function. All monitoring stations will operate for the life of Project.

4 REPORTING AND COORDINATION

All Plan activities in a given year will be documented as part of an annual compliance reporting/meeting process as described in the Exhibit E. Every winter, KHL will convene a global meeting with all stakeholders and FERC to review all management plans and related monitoring efforts associated with construction and subsequent operation of the Project. It is during these annual proceedings when results will be documented, identified issues will be discussed and modifications to plans and/or additional measures will be adopted to ensure that minimal impact to the natural environment is occurring as a result of Project construction and operations. With respect to this Plan, primary topics discussed during the annual compliance reporting/meeting process will include:

- A summary of the actions that KHL implemented during the previous calendar year related to:
 - Grant Lake elevations and water temperature
 - Grant Creek bypass reach instream flows and water temperatures
 - Grant Creek tailrace reach streamflows and water temperatures
- A discussion of any substantial differences between the actions provided in this Plan and the actions that KHL implemented, including explanations for any substantial differences.
- Results of any surveying that occurred during the previous calendar year, conclusions that KHL draws from the monitoring results, and any change to this Plan that KHL proposes based on the monitoring results.
- Stakeholder input with respect to any necessary modifications to the existing Plan.

Ultimately, the draft Annual Compliance Report will be revised to incorporate stakeholder comments and update modified plans for the following year's natural resource implementation and compliance efforts. The Annual Compliance Report will be filed with FERC by April 1 of each year and copies will be made available to the stakeholders and FERC via the internet.

Additionally, all monitoring efforts during construction activities will be managed by KHL's on-site Environmental Compliance Monitor (ECM). This person will be responsible for assuring that all procedural aspects of the natural resource and construction management plans as well as general Best Management Practices (BMP) for construction efforts are being adhered to. This person will be the lead in confirming that all methods and associated data collection activities are occurring as scheduled and all associated data is being entered and reported on appropriately. The ECM will be the primary, on-site contact for both confirmation of appropriate activities with respect to monitoring during construction and the conduit for communicating any issues that may be occurring to insure timely resolution.

5 REFERENCES

- Hunter, M.A. 1992. Hydropower flow fluctuations and salmonids: a review of the biological effects, mechanical causes, and options for mitigation. State of Washington Department of Fisheries Technical Report No. 119. Olympia. 46 pp.
- KHL. 2014a. Grant Lake Hydroelectric Project (FERC No. 13212). Aquatic Resources Study – Grant Creek, Alaska. Fisheries Assessment Report. Prepared by BioAnalysts, Inc for Kenai Hydro, LLC. June 2014.
- KHL. 2014b. Grant Lake Hydroelectric Project (FERC No. 13212). Aquatic Resources Study – Grant Creek Aquatic Habitat Mapping and Instream Flow Study, Final Report. Prepared by McMillen LLC for Kenai Hydro, LLC. June 2014.
- KHL. 2014c. Grant Lake Hydroelectric Project (FERC No. 13212), Water Resources Study – Water Quality, Temperature and Hydrology, Final Report. Prepared by McMillen, LLC for Kenai Hydro, LLC. June 2014.
- KHL. 2015. Grant Lake Hydroelectric Project (FERC No. 13212), Draft License Application. March 2015.

Grant Lake Hydroelectric Project (FERC No. 13212)

Vegetation Management Plan

Draft

Kenai Hydro, LLC

May 2015

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Acronyms and Abbreviations

ADNR	Alaska Department of Natural Resources
AKEPIC	Alaska Exotic Plant Information Clearinghouse
ARRC	Alaska Railroad Corporation
BMP	Best Management Practices
cfs	cubic feet per second
DLA	Draft License Application
ECM	Environmental Compliance Monitor
FERC	Federal Energy Regulatory Commission
GIS	geographic information system
GPS	global positioning system
HVAC heating,	ventilating, and air conditioning
IEEE	Institute of Electrical and Electronics Engineers
INHT Iditarod	National Historic Trail
KHL	Kenai Hydro, LLC
kV kilovolt	
kW kilowatt	
MW m	egawatt
NAVD 88	North American Vertical Datum of 1988
NRIS	National Register Information System
Project or Grant Lake Project	Grant Lake Hydroelectric Project
ROW right-of-way	
RUS	Rural Utilities Service
USFS	United States Department of Agriculture Forest Service
VMP or Plan	Vegetation Management Plan

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Vegetation Management Plan

Draft

Grant Lake Hydroelectric Project (FERC No. 13212)

1 INTRODUCTION

This document provides a draft of Kenai Hydro, LLC's (KHL) proposed Vegetation Management Plan (VMP or Plan) for the Grant Lake Hydroelectric Project (Project or Grant Lake Project), Federal Energy Regulatory Commission (FERC) No. 13212. Activities associated with the proposed construction and operation of the Project include the construction of an intake structure in Grant Lake, a tunnel, a surge shaft, a penstock, a powerhouse, tailrace channel with fish exclusion barrier, access roads, a step-up transformer, a breaker, a transmission line, and a switchyard. The activities and structures associated with this Project have the potential to impact sensitive plant species and to introduce invasive plants. The VMP covers all lands within the FERC Project boundary, and those lands adjacent to the FERC Project boundary that are either affected by Project operations or have the potential to be affected by Project operations. KHL is responsible for implementing the VMP. The specific actions that KHL shall implement in this VMP were identified and developed based on the results of the Terrestrial Resource Study conducted by KHL for the licensing of the Project. KHL documented the results of this study in the *Terrestrial Resources Study – Grant Lake Terrestrial Resources Study, Final Report* (KHL 2014).

1.1. Location

The proposed Grant Lake Project will be located near the community of Moose Pass, Alaska (population 219) in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska (population 2,693, and just east of the Seward Highway (State Route 9); this highway connects Anchorage (population 291,826) to Seward. The Alaska Railroad (ARRC) parallels the route of the Seward Highway, and is also adjacent to the Project area. Grant Lake is located in the mountainous terrain of the Kenai Mountain Range and has a normal water surface elevation of 703 feet North American Vertical Datum of 1988 (NAVD 88) and surface area of approximately 1,703 acres. A map showing the location of the Project is provided in Figure 1.¹

1.2. Project Description

The Grant Lake Project will consist of the Grant Lake/Grant Creek development, an intake structure in Grant Lake, a tunnel, a surge shaft, a penstock, a powerhouse, tailrace channel with fish exclusion barrier, access roads, a step-up transformer, a breaker, a switchyard, and an overhead transmission line. The powerhouse will contain two Francis turbine generating units with a

¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

combined rated capacity of 5 megawatts (MW) with a maximum design flow of 385 cubic feet per second (cfs). The general proposed layout of the Project is shown in Figure 2.

1.2.1. Grant Creek Diversion

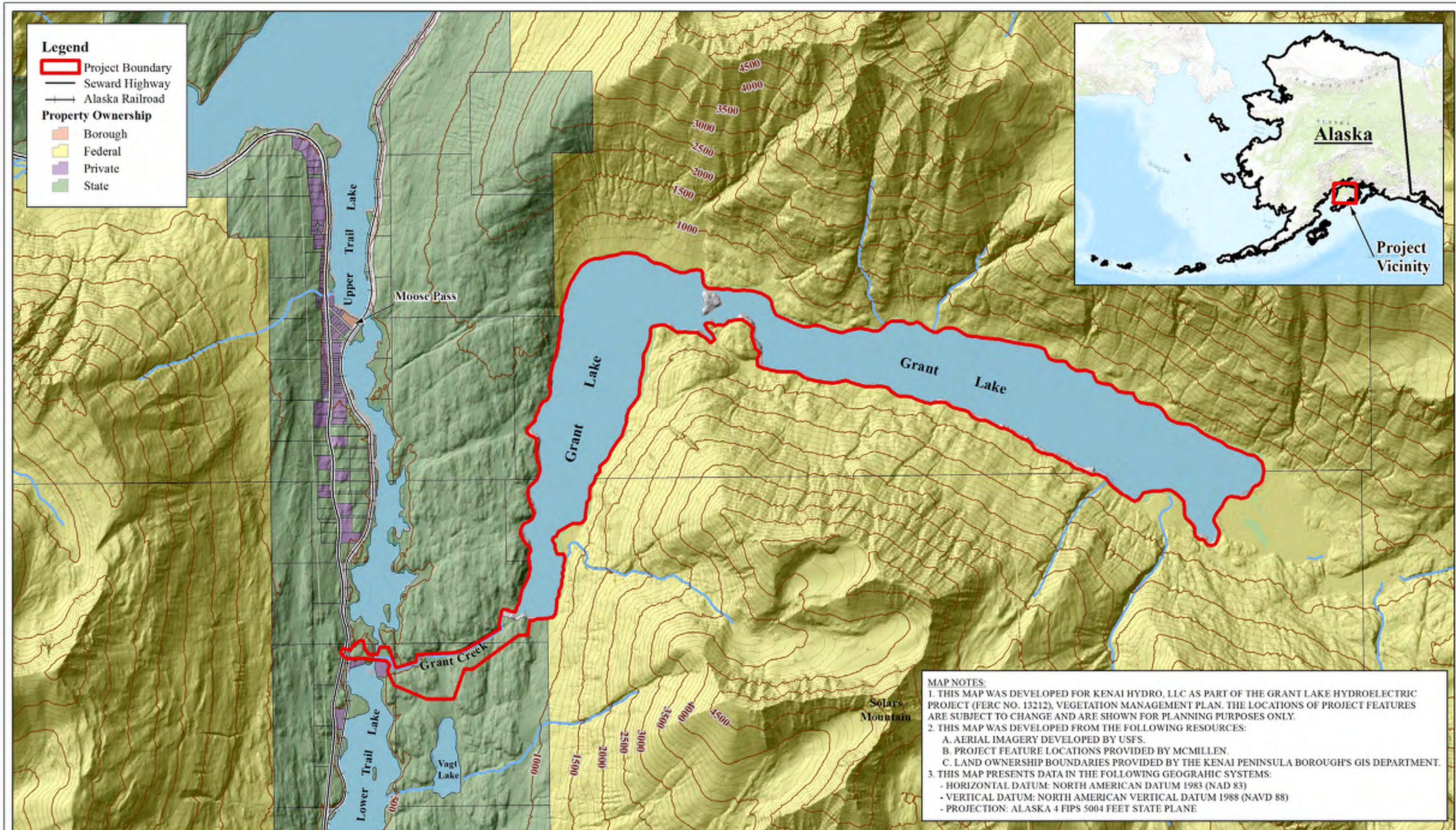
The proposed Project consists of a reinforced concrete intake structure located on the south side of the natural lake outlet. No structural modifications would be made to the existing lake natural outlet. The Project will divert water up to a maximum of 385 cfs into the intake structure. When the lake level exceeds the natural outlet of 703 feet NAVD 88, a maximum of 385 cfs will be diverted into the intake structure and routed to the powerhouse. Flow in excess of 385 cfs would pass over the natural outlet to Grant Creek.

1.2.2. Grant Lake Intake

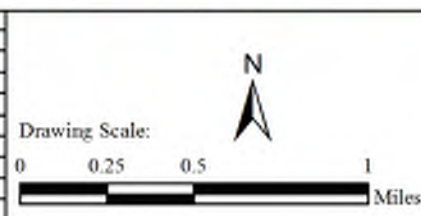
The Project water intake would be a concrete structure located approximately 500 feet east of the natural outlet of Grant Lake and adjacent to the shore. The intake structure consists of a reinforced concrete structure extending from approximately elevation 675 NAVD 88 feet up to a top deck elevation of 715 feet NAVD 88. The structure has an outside dimension of 38 feet by 20 feet. The structure includes intake trashracks, a selective withdrawal intake gates with wire rope hoist, and a roller gate located on the water conveyance intake. The intake is divided into three bays, each fitted with an intake gate to provide flexibility for delivering the full flow range of 58 cfs to 385 cfs. The gate position within the water column will be set to deliver the required water temperature to Grant Creek below the powerhouse. The roller gate would be 11 feet tall by 11 feet wide and fitted with a wire rope hoist lift mechanism. Electrical power will be extended from the powerhouse to the intake to operate the intake and isolation gates. Pressure transducers will be installed to monitor the water level at the lake as well as within the intake tower. An access bridge 16 feet wide would be installed from the lake shore out to the intake structure.

The intake would allow for drawdown of Grant Lake to elevation 690 feet NAVD 88 thereby creating approximately 18,790 acre-feet of active storage for the Project between elevations 703 feet NAVD 88 and 690 feet NAVD 88. The intake can be designed to allow the Project to draw water near the surface at various levels of storage, if deemed necessary to meet downstream temperature requirements. The invert of the intake would be at elevation 675 feet NAVD 88 to provide for adequate submergence to the tunnel.

A bypass pipe would extend from the intake structure to the base of the existing water fall in Grant Creek. The installed pipe would be 900 feet long and approximately 18 inches in diameter allowing the minimum flow ranging from 5 to 10 cfs to be released. A control gate would be located within the intake structure to regulate and monitor the bypass flow releases.



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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

VEGETATION MANAGEMENT PLAN

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

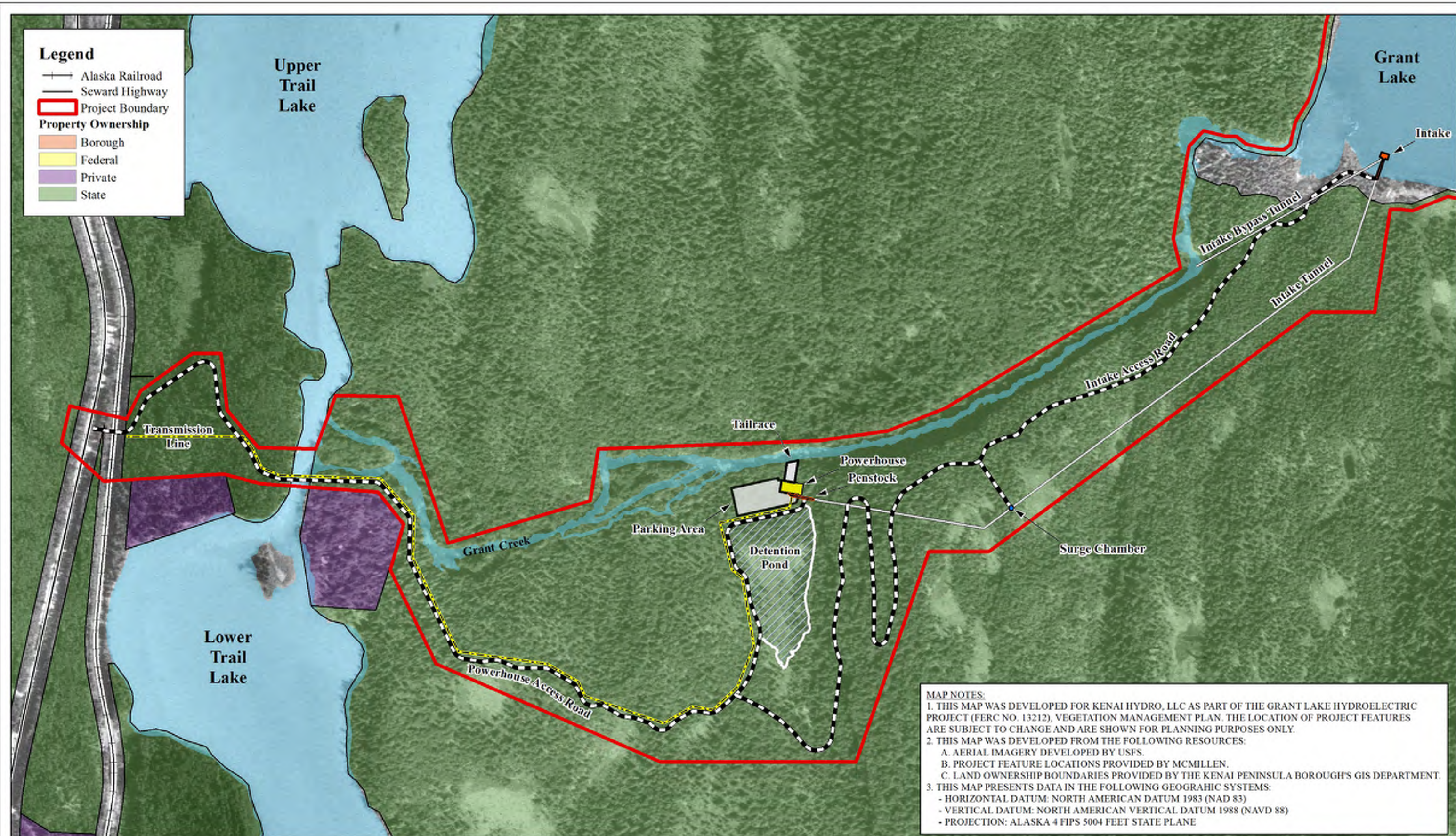
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CHECKED: C. Wainock

ISSUED DATE: 4/29/2015

DRAWING

SCALE: 1:35,000



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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

VEGETATION MANAGEMENT PLAN

Figure 2
General Project Features And Facilities

DESIGNED: Mike Woodbury

DRAWN: Mike Woodbury

CHECKED: C. Wainock

ISSUED DATE: 4/29/2015

SCALE: 1:5,000

1.2.3. Tunnel and Surge Chamber

The intake structure would connect to a tunnel extending to the Project powerhouse. The tunnel would be approximately 3,300 feet long with a 10-foot-horseshoe shape. Drill and shoot techniques would be used to construct the tunnel using an entrance portal at the powerhouse for access. The lower 900 feet of tunnel would be constructed at a 15 percent slope. This section of the tunnel will be concrete lined. The upper 2,400 feet of tunnel would be constructed at a 1 percent slope and would be unlined. This proposed arrangement provides a low pressure hydraulic conduit in the upper tunnel reaches suitable for an unlined tunnel. A surge chamber is located at the transition between the two tunnel slopes. This chamber is approximately 10 feet in diameter and would extend from the tunnel invert elevation of 670 feet NAVD 88 to the ground surface at approximately elevation 790 feet NAVD 88. The surge chamber provides a non-mechanical relief for hydraulic transients that could occur if a load rejection occurs at the powerhouse. Rock anchors and shotcrete stabilization techniques would be used to stabilize the tunnel exposed rock surface where required. A rock trap would be located at the surge chamber location to collect dislodged rocks from the unlined tunnel section.

The tunnel would transition to a 6-foot diameter steel penstock approximately 150 feet from the powerhouse. The transition section would consist of a welded steel concentric structure which transitions from the 10-foot tunnel section to the 72-inch diameter penstock. A steel liner would extend from the downstream tunnel portal approximately 300 feet into the tunnel. The liner would be installed within the exposed rock surface with grout pumped behind the liner to provide an impermeable and structurally sound tunnel section. A similar steel tunnel liner section would be installed at the connection to the intake structure for a total distance of approximately 150 feet.

1.2.4. Penstock and Surge Tank

A 72-inch diameter steel penstock extends 150 feet from the downstream tunnel portal to the powerhouse. The welded steel penstock would be supported on concrete pipe saddles along the penstock route. The penstock would bifurcate into two 48 inch diameter pipes feeding each of the powerhouse turbines. The penstock fitted with welded steel thrust rings would be encased in concrete thrust blocks at the tunnel portal as well as the powerhouse. These thrust blocks would be designed to resist the full hydraulic load associated with the Project operation. An interior and exterior coating system would be applied to the penstock providing full corrosion protection. An access manway would be provided on the exposed penstock section allowing access for future inspection and maintenance.

1.2.5. Tailrace

The powerhouse draft tubes would connect to a tailrace channel located on the north side of the powerhouse structure. The draft tubes would extend from a low point elevation of approximately 509 feet NAVD 88 up to the tailrace channel invert elevation of 515 feet NAVD 88. The channel would continue to the east bank of Grant Creek. Each of the draft tubes will be gated allowing the flow to be routed to the detention pond for spinning reserve operation. Isolation bulkheads would be provided allowing dewatering of the draft tubes for inspection and maintenance of the turbine. The tailrace channel would be trapezoidal in shape with a bottom

width of 43 feet, side slopes of 2H:1V and a channel depth ranging from 13 feet at the powerhouse to 7 feet at the creek. A concrete structure would be constructed at the confluence of the channel and Grant Creek. A picket-style fish barrier would be placed on this concrete structure as well as provision for installation of stoplogs allowing the tailrace channel to be dewatered for inspection and maintenance. The channel would be excavated from native material and lined with riprap to provide a long term stable section. A staff gage and pressure transducer will be placed in the channel to monitor the water level in the channel.

1.2.6. Tailrace Detention Pond

An off-stream detention pond would be created to provide a storage reservoir for flows generated during the rare instance when the units being used for spinning reserve are needed for the electrical transmission grid. In this situation, the additional powerhouse flows would be diverted into the detention pond and then released slowly back into Grant Creek. It is anticipated that the discharge associated with a spinning reserve event would be dispersed via the tailrace channel which flows into Grant Creek. The detention pond would be located immediately south of the powerhouse and would have a capacity of approximately 15 acre-feet and a surface area of approximately 5 acres.

1.2.7. Powerhouse

The powerhouse would be located on the south bank of Grant Creek immediately west of the downstream tunnel portal and adjacent to the detention pond. The powerhouse would consist of a concrete foundation and a pre-engineered metal building superstructure. The building would be approximately 100 feet long (east to west) and 50 feet wide (north to south). The penstock would tie into the powerhouse on the south side and the tailrace channel on the north side of the building. The building floor would be set at approximately elevation 523 feet NAVD 88 and the centerline of the turbine runner at elevation 526 feet NAVD 88. The draft tube floor would be set at elevation 509 feet NAVD 88 with an operating tailwater inside the draft tubes ranging from 518.0 feet to 519.3 feet NAVD 88.

Two horizontal Francis type turbine/generator units with a rated total capacity of 5,000 kilowatt (kW) would be housed in the powerhouse structure. The powerhouse flow would range from a maximum of 385 cfs to a minimum of 58 cfs with each turbine operating flow ranging from 192.5 cfs to 58 cfs. Associated mechanical and electrical equipment would include hydraulic power units, turbine isolation valves, penstock drain, utility water system, lube oil system, oil water separator, battery system, and heating, ventilating, and air conditioning (HVAC) system. A control room housing the motor control center, communication rack, fiber optic panels, computers, and related equipment would also be provided. The Project switchgear would be located within the powerhouse. A standby generator, transformer, and fused pad mounted switch assembly would be mounted on an enclosed switchyard located on the south side of the powerhouse. Dewatering pumps would be provided to support dewatering of the turbine draft tubes. A 30-ton bridge crane would be provided for equipment maintenance. The crane would travel on rails mounted on the steel building support columns. An energy dissipation valve would extend off the penstock and provide bypass flows into the Project tailrace.

1.2.8. Transmission Line/Switchyard

An overhead 115-kilovolt (kV) transmission line will extend from the powerhouse to the existing 115-kV transmission line located on the east side of the Seward Highway. In addition to any overhead transmission structures, the facilities would include a switchyard at the powerhouse consisting of a 115-kV fused pad-mounted disconnect switch and a pad-mounted 115-kV GSU transformer. The transmission line would run from the powerhouse parallel to the access road where it would intersect Chugach Electric's transmission line. The interconnection would have a pole mounted disconnect switch.

Wooden poles would be designed as tangent line structures on about 250-foot centers. Design of the line would also incorporate the latest raptor protection guidelines. Collision avoidance devices would be installed on the line at appropriate locations to protect migratory birds.

1.2.9. Appurtenant Facilities

The following pertinent mechanical and electrical equipment will be applicable to the Project:

- Intake selective withdrawal intake gate
- Intake trashrack system
- Intake roller gate used to isolate the tunnel and downstream generation facilities
- Control gate located on the bypass pipeline pipe
- A 30-ton bridge crane in the powerhouse
- Pumps located in the powerhouse used to dewater the draft tubes
- Pressure transducers located throughout the project used to monitor the water level in the reservoir, tunnel and tailrace, as well as pressures in the tunnel and penstock
- Security cameras at the intake and powerhouse
- Sanitary waste holding tank at the powerhouse
- A power line extending from the powerhouse to the intake to supply electrical power to the gates and trashrack
- Temperature instrumentation at the intake structure and at various stream locations to monitor water temperature

This equipment along with other identified miscellaneous mechanical and electrical equipment will be developed during the final design and included in the construction documents.

1.2.10. Access Roads

The Project would require an access road to both the powerhouse located near the base of the Grant Creek canyon and to the intake at Grant Lake. The access road would be used to construct the Project and afterwards, to maintain the facilities. It is anticipated that the powerhouse would be visited approximately once a week and the intake visited approximately once a month beginning just after the ice melts and continuing until just before freeze up. The powerhouse access road would be maintained year around. The intake access road would not be maintained in winter.

The 24-foot wide access road would tie into the Seward Highway at approximately MP 26.9. The route would travel eastward to cross Trail Lakes at the downstream end of the narrows between Upper and Lower Trail lakes and then continue eastward to the powerhouse. This route would be approximately one mile long. It would cross the ARRC tracks near an existing railroad crossing for a private driveway. The road would cross the narrow channel connecting Upper and Lower Trail lakes with an approximately a 110-foot-long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The proposed route would avoid cuts and travel along the base of some small hills on the south side of Grant Creek to the powerhouse. This proposed access road would have one 90-degree crossing of the Iditarod National Historic Trail (INHT).

The intake access road would be approximately one mile long, beginning at the powerhouse. The road would ascend a 230-foot bluff to reach the top of the southern rim of the Grant Creek canyon. A series of road switchbacks would be required to maintain a road grade of less than 8 percent. The road would then generally follow the southern edge of the canyon until it descends to Grant Lake. A small parking area and turn-a-round area would be provided at the intake structure. A 16-foot wide bridge will extend from the bank out to the intake structure.

The road would be gravel with a 16-foot top width. Maximum grade would be 8 percent. Periodic turnouts would be provided to allow construction traffic to pass. Fifty-foot radius curves would be used to more closely contour around the small steep hills of bedrock to limit the extent of the excavation and the height of the embankments.

1.2.11. Project Operations

Once constructed, the Project will operate to generate power throughout the calendar year based on inflow, available storage, lake elevation, and minimum flow requirements with Grant Creek. The lake will operate from the natural Grant Lake outlet elevation of 703 feet NAVD 88 down to a minimum lake elevation of 690 feet NAVD 88. The lake will be drawn down in the winter months utilizing a combination of Grant Creek inflows and stored water to meet the instream flows in the bypass reach while also maintaining power production. Water flow predictions will be used to estimate snowpack and the corresponding runoff volume. The Project operation will then be tailored to maximize winter power production while also ensuring the lake refills to elevation 703 feet NAVD 88.

1.3. Purpose

Project construction will create both temporary and permanent changes to upland vegetation communities in the Project area (KHL 2014). The VMP was developed to help minimize the negative impacts Project construction and operation activities would have on natural vegetation, wetlands, and downstream aquatic resources. It includes provisions for invasive plant prevention and control, U.S. Forest Service (USFS) sensitive species protection, guidelines for the revegetation of disturbed areas, vegetation monitoring guidelines, and contingency measures.

The VMP applies to lands affected by the Project, including:

- Lands within the Project boundary;

- Lands influenced by ground-disturbing activities conducted as part of Project construction, operations, or license compliance;
- Lands influenced by Project-related erosion or invasive plant infestations;
- Lands influenced by habitat improvements conducted as part of Project operations or license compliance activities (including invasive plant prevention and control).

2 BACKGROUND AND OBJECTIVES

The VMP has been prepared to conform to recommended Best Management Practices (BMPs), and Alaska Department of Natural Resources (ADNR) and Chugach National Forest guidelines for preventing the introduction and spread of invasive plant species (USFS 2002; USFS 2005a), and to protect sensitive plant species in accordance with USFS Region 10 guidelines (USFS 2002). The VMP thus, includes the provisions for invasive plant prevention and control, sensitive plant species protection, revegetation of disturbed areas, vegetation monitoring, and contingency measures. The VMP was created using baseline vegetation data (KHL 2014) and Project design specifications as described in the Draft License Application (DLA; KHL 2015). The VMP provides KHL with appropriate actions to minimize negative impacts to vegetation in the Project area, negative impacts to sensitive plants, and the introduction and spread of invasive plant species. It will promote revegetation of disturbed areas by native plant species and include methods for controlling invasive plants that may become established in disturbed areas associated with the Project.

2.1. Objectives

The objectives of the VMP are to provide guidelines for the:

- Prevention, containment, and control of invasive plants on lands disturbed by Project construction and operations.
- Revegetation of lands affected by Project construction and operations.
- Protection of USFS sensitive plant species and their habitat on Project-affected USFS lands.

2.2. Existing Conditions

This section summarizes the findings of the invasive plant survey and the sensitive plant survey that were conducted in the Project area in 2013 (KLH 2014).

2.2.1. Invasive Plant Species

A survey of invasive plants occurred in areas potentially affected by the Project in 2013 (KHL 2014). Areas of particular focus included: roadsides, motorized vehicle travel routes, existing trails, lake and stream access points, developed and social recreation sites, and other human use areas. Four invasive plant species were found in the invasive plant study area during the 2013 survey (Table 1). In addition, a small population of timothy (*Phleum pratense*) was observed in the study area in the Seward Highway right-of-way (ROW) in 2014 (KHL 2015). Alaska Exotic

Plants Information Clearinghouse (AKEPIC) field data sheets documenting invasive plants in the study area are located in Appendix 1. Overall, relatively few infestations of invasive species were documented in the invasive plant study area. A number of other invasive species are known to exist near the Project area (USFS NRIS 2013).

Once the Project begins operating, it is possible that invasive plants could invade the expanse of bare ground exposed by the seasonal 13-foot drawdown of Grant Lake. The vegetation of reservoir drawdown zones often differs substantially from that of areas that are not periodically inundated. Invasive plants often dominate reservoir drawdown zones. Invasive plants in the drawdown zone would likely spread to adjacent upland areas. It is anticipated that concerted efforts to prevent invasive plant establishment and spread in the Grant Lake drawdown zone will be necessary.

Table 1. Invasive plant populations in the Grant Lake Project area (KHL 2014).

Scientific Name	Common Name	General Location in the Project area
<i>Taraxacum officinale</i>	common dandelion	Small scattered populations in the ARRC ROW, Seward Highway ROW, the Grant Lake Trail near Grant Lake and around Grant Lake.
<i>Trifolium repens</i>	white clover	Small population in the Seward Highway ROW
<i>Poa pratensis</i>	Kentucky bluegrass	Along the Grant Lake Trail near Grant Lake
<i>Poa annua</i>	annual bluegrass	Along the Grant Lake Trail near Grant Lake
<i>Phleum pratense</i>	timothy	Small population in the Seward Highway ROW

2.2.2. Sensitive Plant Species

Although there are no planned Project components on USFS land, field surveys for sensitive plants occurred on USFS-owned portions of the Grant Lake shoreline, as this area will be affected by Project operations (KHL 2014). Sensitive plants are plant species formally identified by Region 10 of the USFS (Goldstein et al. 2009). A primary goal of the VMP is to avoid negative Project-related impacts to USFS sensitive plant populations within the Project area.

In the Grant Lake Project area, a small population of the USFS sensitive species pale poppy (*Papaver alboroseum*) was documented on a semi-stabilized, sparsely vegetated, south-facing creek outwash area near the Grant Lake shore, on a cobble, sand, and gravel substrate. A USFS sighting form for the population is presented in Appendix 2. A map of the population is presented in Appendix 3. The population measured approximately 10 feet by 45 feet in size and had 20 plants. The plants are a minimum of 8 feet away from and between 1 and 3 feet higher (704 – 707 feet NAVD 88) than the natural maximum lake elevation level of 703 feet NAVD 88. Pale poppy typically grows in open areas, areas with sandy, gravelly, well-drained soils; mesic to dry alpine areas; and recently deglaciated areas (Goldstein et al. 2009). Additional information about the pale poppy may be found in “Conservation Assessment for the Pale Poppy (*Papaver alboroseum*)” (Charnon 2007).

The Grant Lake pale poppy population is located in the Floodplain Forest and Scrub vegetation type. Vegetation present at the site was an early successional community with shrubs, forbs, and graminoids. The population and habitat appear to be increasingly shaded due to natural vegetative succession. Dense Sitka alder and willow shrubs and seedlings dominate the site. Approximately half of the pale poppy plants in the population were growing in the shade of Sitka alder branches. The more densely shaded pale poppy plants were smaller and had fewer fruiting capsules than plants that were in less shade. If natural vegetation succession in the vicinity of the Grant Lake pale poppy site continues without natural disturbance (e.g., an avalanche or flood event), it is likely that the already small population will naturally decline in numbers and eventually disappear due to the species' requirement for open, well-drained habitat.

There is an historic cabin, a campsite and two campfire rings with evidence of recent use on the small gravel bar where the pale poppy population was located. There was no visible evidence of damage to plants when surveyed in 2013, although plants were as close as 5 feet away from one of the campfire rings. The only invasive plant species present in the vicinity of the pale poppy population was common dandelion (*Taraxacum officinale*). Horned dandelion (*Taraxacum ceratophorum*), a native plant species, was observed in similar habitat on the lakeshore and may be mixed with the common dandelion at the site.

While no direct effects to the pale poppy population as a result of Project construction are anticipated, indirect effects to plants and their habitat are possible due to a seasonal 13-foot drawdown of Grant Lake. Potential indirect effects to plants from the drawdown of the lake include: introduction and spread of invasive plant species in both upland areas in the vicinity of the population and below the natural high water level in the drawdown zone between 690 and 703 feet NAVD 88. The lake level naturally fluctuates 11 feet below its maximum elevation level of 703 feet NAVD 88 to approximately 692 feet NAVD 88. Indirect effects to the population may also occur as a result of an increase in recreation in the area due to potentially easier access to Grant Lake.

3 PLAN IMPLEMENTATION

This section describes vegetation management measures to be implemented in the Grant Lake Project area with regard to:

- Invasive Plant Management and Control
- Revegetation and Vegetation Maintenance
- Sensitive Plant Species Protection and Monitoring

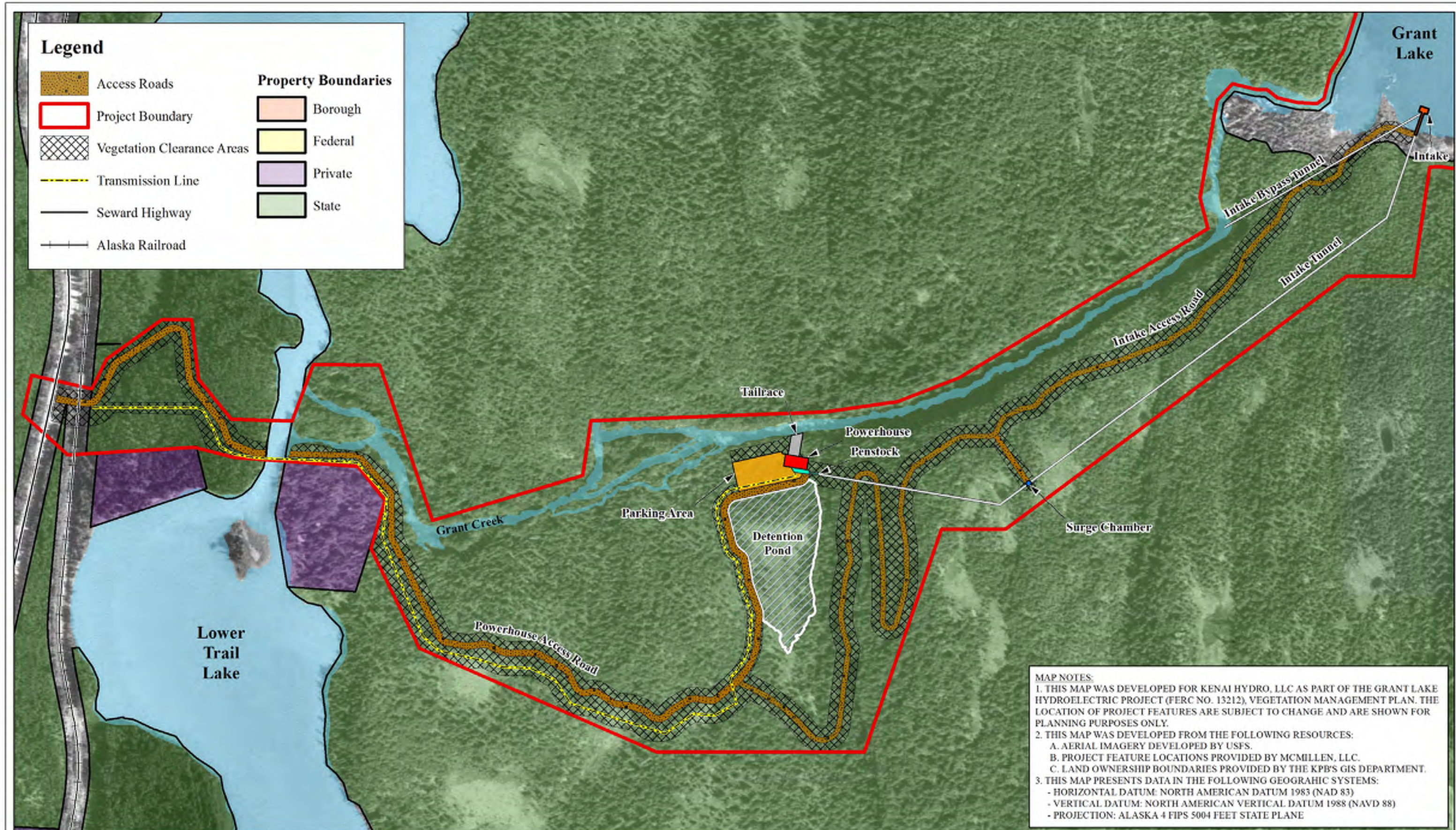
These measures will be implemented before, during, and after the construction phase of the Project, or during Project operations.

Vegetation management measures applied during Project construction and operation will be managed by KHL's on-site Environmental Compliance Monitor (ECM). The ECM will be responsible for assuring that all procedural aspects of the natural resource and construction management plans, as well as general Best Management Practices (BMP) for construction efforts are being adhered to.

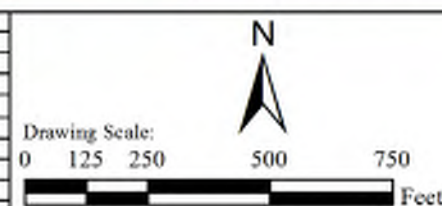
3.1. Invasive Plant Management and Control

The following general measures and BMPs regarding invasive plant management and control will be employed during construction and operation of the Project to prevent the establishment and spread of invasive plant species.

- Prior to construction, provide training and information to Project personnel (employees and contractors) about the goals and methods of invasive plant prevention and management. Training will include identification of common invasive plant species.
- Prior to construction, vegetation clearing limits will be clearly marked in the field along access roads, the transmission line, and adjacent Project structures. Vegetation clearing limits are shown in Figure 3.
- Require the use of weed-free construction materials (rock, gravel, fill material, mulch, straw, etc.).
- Prior to construction, treat known invasive plant infestations in and near the Project area to minimize seed source in construction areas. AKEPIC Field Data Sheets documenting known invasive species infestations are included in Appendix 1.
- During construction, restrict ground-disturbing activities and fill footprint to as small an area as possible within the Project boundary and designated roads.
- Limit the amount and length of time that bare ground is exposed by mulching bare areas and minimizing ground disturbance. Bare ground provides a favorable substrate for invasive plants to become established. Invasive plant seeds are most numerous in late summer and can remain viable in the soil for many years.
- Clean construction equipment prior to use in order to avoid the introduction of new invasive plants into the Project area. Clean especially vehicle tires, vehicle undercarriage areas, shovels, and buckets.
- Employ measures to limit erosion during construction in the Project area (consistent with an Erosion and Sediment Control Plan to be developed post-licensing).



REV	DATE	BY	DESCRIPTION



MCMILLEN, LLC

THE CORONA BUILDING
915 MAIN ST. SUITE 208
DOUGLAS, ID 83822

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Developed For:



Homer Electric Association, Inc.
A Touchstone Energy Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

VEGETATION MANAGEMENT PLAN

Figure 3
General Project Features, Facilities, Adjacent Cleared Areas, and Right of Ways

DESIGNED: Mike Woodberry

DRAWN: Mike Woodberry

CHECKED: K. Beck

ISSUED DATE: 4/29/2015

DRAWN:

SCALE: 1:4,700

Surveys for and treatment of invasive plant infestations will be conducted during the first growing season after construction completion and year 5 post-construction. The survey will include areas in the vicinity of Project-related disturbance (including construction areas, access roads, ROWs, facilities, and the Grant Lake shoreline). The survey will document invasive plants included on the current AKEPIC invasive plant list (available on the AKEPIC website). The AKEPIC website has comprehensive information about invasive plant species in Alaska.

- Invasive plant surveys will be done by a qualified botanist or someone trained in invasive plant identification.
- In addition to documenting invasive plant infestations, bare areas in need of revegetation will be documented during surveys.
- Any invasive plant infestations will be documented with AKEPIC Field Data Sheets and global positioning system (GPS). Forms will be submitted to AKEPIC for inclusion in their state-wide database. The AKEPIC User's Manual, including a blank AKEPIC Field Data Sheet, is available to download from the AKEPIC website (http://aknhp.uaa.alaska.edu/wp-content/uploads/2012/03/AKEPIC_User_Manual_022312.pdf).
- General information to be recorded includes: species, location, size of infestation, size of bare area, habitat information of adjacent area (vegetation type, dominant native species), etc.
- Surveys will occur during the growing season (June – August), to optimize plant identification.
- Invasive plant locations, bare area locations in need of revegetation, and associated information will be maintained in a geographic information system (GIS) database.
- Subsequent general surveys for invasive plant species will be conducted every ten years for the term of the license.
- The time period between invasive plant surveys may be adjusted depending on the rate at which invasive plants become established and spread in the Project area. Any proposed modifications to the invasive plant survey schedule will be reviewed and ultimately approved by the USFS, and other stakeholders prior to implementation.

Once invasive plant infestations are documented, appropriate invasive plant treatments will be conducted to reduce or eliminate their negative impacts.

- Treat and monitor treated invasive plant infestations associated with Project construction and operations in consultation with the ADNR, the USFS, and their respective invasive plant management plans.
- Invasive plant control will be achieved with a combination of manual, mechanical, cultural, biological and chemical treatments. Damage to non-target species will be avoided to the extent possible.
- For mechanical treatments, the entire plant, including roots, will be removed.
- Control of invasive plants will occur at different times of the year depending on the methods used and the species being controlled.
- If possible, infestations will be treated early in the growing season before invasive plants produce that season's seed.
- After invasive plants are removed, bare areas will be seeded.

- The more aggressive invasive plants should be prioritized for control. Invasiveness Ranks are defined and given for many common invasive plants here: <http://aknhp.uaa.alaska.edu/botany/akepic/non-native-plant-species-list/#content>
- Horned dandelion (*Taraxacum ceratophorum*), a native plant species, is very similar in appearance to common dandelion (*T. officinale*). The two species may grow together on the Grant Lake shore. Care should be taken that horned dandelion not be controlled.

Standards for invasive plant control success will be determined in consultation with the ADNR and the USFS.

- Treated areas will be monitored to evaluate the effectiveness of control.
- It may take several treatments to eliminate larger invasive plant infestations.
- Monitoring of these sites will continue for 2 years after construction is completed to ensure treatments are effective.

Reporting related to invasive plants will be incorporated into the Annual Compliance Report. Based upon the surveys conducted and associated results, if detrimental populations of invasive species are documented and their spread into the Project area is deemed to be as a result of Project construction or operations, KHL will modify the VMP for the minimization and eradication of invasive plant species from priority Project areas. In this eventuality, the proposed modifications will be reviewed and ultimately approved by the ADNR, the USFS, and other stakeholders prior to filing with FERC. These discussions will take place as part of the annual compliance reporting/meeting process further detailed in Section 4.

3.2. Revegetation and Vegetation Maintenance

3.2.1. Revegetation

KHL proposes to revegetate areas disturbed by Project construction and operations. These areas include areas adjacent Project features, laydown areas for equipment and construction materials, as well as temporary vehicle use and parking areas. Revegetation efforts will restore areas to their previous upland vegetation type. Upland vegetation types in the Project area were surveyed and mapped as a part of vegetation studies of the Grant Lake Project area (KHL 2014). Project construction activities are planned in the following three vegetation types:

- Coniferous Forest
- Coniferous-Deciduous Forest
- Floodplain Forest and Scrub

A survey for areas in need of revegetation will occur during the next growing season after construction completion. These areas will be documented in a manner similar to invasive plant infestations, described in Section 3.1. The following measures and BMPs regarding revegetation will be employed during the construction and operation of the Project:

- Only weed-free materials (rock, mulch, straw, plant materials, native seed mixes) will be used for revegetation.

- During construction, salvage native shrubs, forbs, soils and vegetation mats from areas where plants will be destroyed, for later use in revegetation. As much soil as reasonably possible will be kept with salvaged plant roots.
- Promote natural revegetation when local seed source and site conditions are favorable for achieving revegetation objectives.
- When conditions are not favorable for natural revegetation, use native plant sources for revegetation stock.
- Preference will be given to using plant materials for revegetation from the local region to maximize adaption to the Project area, and to maintain local genetic composition.
- KHL will comply with the state and/or federal land manager's methods for assessing the success of revegetation efforts.

3.2.2. Vegetation Maintenance

While vegetation communities in some areas will eventually be restored to their pre-construction structure, vegetation along access road ROWs, the transmission line corridor and in cleared areas around Project features will be regularly maintained to manage the height of trees and tall shrubs. This regular maintenance will follow applicable guidelines established in the Invasive Plant and Revegetation sections of this document. Measures and guidelines for managed vegetation areas include:

- During the license period, vegetation adjacent to buildings and in ROWs along access roads and the transmission line will be cleared periodically to maintain clearances specified by Rural Utilities Service (RUS) and Institute of Electrical and Electronics Engineers (IEEE) standards. The frequency of maintenance may need to be adjusted depending on how rapidly or slowly trees and other tall vegetation grows. It is anticipated that this will occur every 8 to 10 years.
- Invasive plant infestations will be mapped and controlled in managed vegetation areas. Refer to invasive plant control guidelines in Section 3.1.
- Bare ground areas in managed vegetation areas will be mapped and revegetated. Refer to revegetation guidelines in Section 3.2.1.

Reporting related to revegetation efforts and associated confirmation surveys will be incorporated into the relevant year's Annual Compliance Report. As detailed above, if initial revegetation efforts are unsuccessful in certain areas, KHL will assess the reasons and modify the revegetation approach for successful revegetation of those areas. Any modifications to the VMP will be reviewed and ultimately approved by the ADNR, USFS, and other stakeholders prior to filing with FERC. These discussions will take place as part of the annual compliance reporting/meeting process further detailed in Section 4.

3.3. Sensitive Plant Species Protection and Monitoring

3.3.1. General Measures

The following measures apply to sensitive plant occurrences on USFS lands in the Project area.

- If any previously undiscovered sensitive plants are encountered on USFS land at any time prior to or during implementation of the Project, the USFS will be notified and an appropriate course of action determined to avoid or mitigate disturbance.
- During the Project license period, a site-specific sensitive plant survey will be done prior to any new Project-related ground-disturbing activities occurring on USFS land. The survey will be done in consultation with the USFS and will be consistent with current USFS sensitive plant survey protocols (Stensvold 2002; USFS 2005b). USFS 2008 details how to document sensitive plant populations. A blank USFS sighting form (R10 TES Plant Element Occurrence Field Form) is included in Appendix 4.
- The target R10 sensitive species list will be reviewed and updated prior to sensitive plant surveys. The list was last updated in February 2009.
- A GIS database with records of sensitive plant occurrences and invasive plant infestations will be queried as part of the evaluation process for any new ground-disturbing activities.

3.3.2. Pale Poppy Population Management

Monitoring of the pale poppy population located on the north shore of Grant Lake will be conducted during years 1 and 5 after license issuance to assess operational activities impact (if any) on the population or its habitat. The pale poppy sighting form is presented in Appendix 2. General USFS guidelines for (re)surveying sensitive plant occurrences will be followed (USFS 2008):

- Information collected will include: number of plants, population dimensions, elevation of plants relative to the natural maximum lake elevation (703 feet NAVD 88), presence and abundance of invasive plant species; and the presence of any other disturbances or threats.
- Location and boundaries will be documented with a GPS unit.
- Representative photographs will be taken.
- Monitoring information will be updated and maintained in a GIS database.
- Surveys will be conducted by a qualified botanist.

Given that the operational regime for the Project involves no increase in the natural, maximum lake elevation (703 feet NAVD 88), it is possible that Project operations will have no negative impacts on the natural condition of the population. It is more likely that natural succession of other plant species will negatively impact the pale poppy over time. Given proposed operational parameters this impact would not be deemed to be associated with the Project. If this is the case, or if Project operations are documented to increase the number of plants associated with that particular community, no further surveys will be conducted. If however, Project operations are documented to negatively impact the population or its habitat, mitigation efforts will be implemented, including:

- Invasive plants found in the vicinity of the pale poppy population will require timely control. They can be controlled at the same time as invasive plants in other areas around Grant Lake. Control efforts would be determined in consultation with the USFS.

- If increased recreational access to Grant Lake results in increased impacts to the pale poppy population (damage to plants or habitat degradation), campfires and overnight camping could be restricted at the campsite and gravel bar where the population is located.

Reporting related to sensitive species monitoring will be incorporated into the Annual Compliance Report. If the pale poppy population is decreasing in numbers or if its habitat is being degraded as a result of Project operations or invasive plant infestation, KHL will develop a site-specific plan to address either avoiding future degradation of the population or identify mitigation actions that limit the overall impact of the potential loss of that population. In this eventuality, the proposed modifications will be reviewed and ultimately approved by the USFS, and other stakeholders prior to filing with FERC. These discussions will take place as part of the annual compliance reporting/meeting process further detailed in Section 4.

4 COORDINATION AND REPORTING

Provisions in the VMP will be formally adopted and implemented by KHL upon FERC approval of the VMP and after issuance of the FERC license. The USFS will be consulted regarding USFS-listed sensitive plant management, and regarding invasive plant prevention and control measures on USFS lands. The ADNR will be consulted regarding invasive plant prevention and control measures on ADNR lands.

A GIS database will be maintained and updated after each survey, and will include records of all known sensitive species occurrences and all known invasive plant infestations in the Project area. In addition to records of occurrences documented during survey efforts, any relevant data supplied by the ADNR or USFS will be included. As more sensitive plants or invasive plants are identified in the Project area, these will be added to the database. The database will be queried as part of the evaluation process for new ground-disturbing or other activities.

All Plan-related activities in a given year will be documented as part of an annual compliance reporting/meeting process. Every winter, KHL will convene a global meeting with all stakeholders and FERC to review all management plans and related monitoring efforts associated with construction and subsequent operation of the Project. During these annual proceedings, results will be documented, identified issues will be discussed and modifications to plans and/or additional measures will be adopted to ensure that minimal impact to the natural environment occurs as a result of Project construction and operations. With respect to the VMP, primary topics discussed during the annual compliance reporting/meeting process will include:

- A summary of the actions that KHL implemented during the previous calendar year related to:
 - Invasive species
 - Revegetation efforts
 - Sensitive species
- A discussion of any substantial differences between the actions provided in the VMP and the actions that KHL implemented, including explanations for any substantial differences.

- Results of any surveying and monitoring that occurred during the previous calendar year, conclusions that KHL draws from the results, and any change to the VMP that KHL proposes based on the results.
- Stakeholder input with respect to any proposed modifications to the existing VMP.

Ultimately, the draft Annual Compliance Report will be revised to incorporate stakeholder comments and update modified plans for the following year's natural resource implementation and compliance efforts. The Annual Compliance Report will be filed with FERC by April 1 of each year and copies will be made available to the stakeholders and FERC via the internet.

Additionally, all monitoring efforts during construction activities will be managed by KHL's on-site ECM. This person will be responsible for assuring that all procedural aspects of the natural resource and construction management plans as well as general BMPs for construction efforts are being adhered to. This person will be the lead in confirming that all methods and associated data collection activities are occurring as scheduled and all associated data is being entered and reported on appropriately. The ECM will be the primary, on-site contact for both confirmation of appropriate activities with respect to monitoring during construction and the conduit for communicating any issues that may be occurring to insure timely resolution.

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Appendix 1: AKEPIC Field Data Sheets, 2013

**Survey Date: 07/22/2013 **Observers: Beck, Kathryn A.
mm / dd / yyyy Last Name, First Name Initial. (e.g.: Smith, J.; Williams, R.)

**Required Field

Observers Affiliation (circle one):

AACD_IPC AKNHP ARS BLM CES CWMA DOD DOWL HDR NPS PMC SCS TECI UAF USFS USFWS USGS Other

A. Site Information

** Site Code: AK State Land, Grant Lake Project
Visit Type (circle one): Reconnaissance Monitoring Research Control
Is this a Revisit (circle one): Yes No
** Study Type (circle one): Exhaustive species inventory Highest priority species Single species study
** Area Surveyed: ± 200 (acres)
(Note: 1/10 acre = 37 ft radius, 1/2 acre = 83 ft radius, 1 acre = 118 ft radius)
Site Vegetation Community Description (level IV Viereck et al. 1992): III. G. /
Disturbance Type (see instructions below): Fill, Impatation (Road) Railroad) River Action

B. Location Information

** Latitude: 60.4581631 (Decimal Degrees, NAD83)
** Longitude: -149.3681377 (Decimal Degrees, NAD83)
Elevation: ± 440 (ft)
** Collection Method (circle one): GPS Topographic Map Aerial Photo
** GPS precision: 0-30 (ft; 0-5, 0-30, 0-100, 0-1000, 1000+)
Topographic Map Source: _____ Scale: _____ Date: _____
Quad name: _____ Quad number: _____ (i.e. A-1, B-2, C-3, D-4)
Notes (location): TADF + TRRE3 located on Seaside Hwy ROW + AK RR ROW,
within Grant Lake Study Area.

C. Survey Information

** Plant Species Code (see below)	** Infested Area (acres) (see below)	** Canopy Cover (% cover) (see below)	Disturbance Age (yrs.)	Stem Count (see below)	** Herbarium (see below)	Control Action (see below)	Aggressiveness (see below)
TADF	0.1	< 1%	ongoing	51-150	—	Multiple	Medium
TRRE3	0.01	< 10%	ongoing	1-5*	—	Multiple	Medium

D. Notes (species): The TADF + TRRE3 plants along Seaside Hwy + Alaska RR ROW
are likely known metapopulations. There were also several TADF plants
at the mouth of Grant Creek where it enters Trail Lake Narrows.
* 1-5 rhizomatous patches.

**Survey Date: 07/19/2013 **Observers: Beck, Kathryn A.
mm / dd / yyyy Last Name, First Name Initial. (e.g.: Smith, J.; Williams, R.)

**Required Field

Observers Affiliation (circle one):

AACD_IPC AKNHP ARS BLM CES CWMA DOD DOWL HDR NPS PMC SCS TECI UAF USFS USFWS USGS Other

A. Site Information

** Site Code: CHNE 2013
Visit Type (circle one): Reconnaissance Monitoring Research Control
Is this a Revisit (circle one): Yes No
** Study Type (circle one): Exhaustive species inventory Highest priority species Single species study
** Area Surveyed: ±200 (acres)
(Note: 1/10 acre = 37 ft radius, 1/2 acre = 83 ft radius, 1 acre = 118 ft radius)
Site Vegetation Community Description (level IV Viereck et al. 1992): III-G₁
Disturbance Type (see instructions below): Lake Action Trail/Landslide/Avalanche

B. Location Information

** Latitude: 60.492915 (Decimal Degrees, NAD83)
** Longitude: -149.3139534 (Decimal Degrees, NAD83)
Elevation: 700' to 705 (ft)
** Collection Method (circle one): GPS Topographic Map Aerial Photo
** GPS precision: 0-30 (ft; 0-5, 0-30, 0-100, 0-1000, 1000+)
Topographic Map Source: _____ Scale: _____ Date: _____
Quad name: _____ Quad number: _____ (i.e. A-1, B-2, C-3, D-4)

Notes (location): The *Poa annua*, *Poa pratensis* and *Taraxacum* were found at this point. *Taraxacum officinale* was located at other scattered locations around lakeshore. This point is where the Grant Lake Trail enters the study area on the west end of the north shore of Grant Lake on USFS land.

C. Survey Information

** Plant Species Code (see below)	** Infested Area (acres) (see below)	** Canopy Cover (% cover) (see below)	Disturbance Age (yrs.)	Stem Count (see below)	** Herbarium (see below)	Control Action (see below)	Aggressiveness (see below)
TAOF	0.1 <u>on shore</u>	1%		151-500	Not Collected	Multiple	Low to med
POAN	0.01	5%		50-150	Not Collected	Multiple	Low
POPR	0.01	1%		26-50	Not Collected	Multiple	Low

D. Notes (species): I located *Taraxacum ceratophorum*, a native species similar in appearance to *Taraxacum officinale* mixed in with *T. officinale* on the Grant Lake shore. The locations of *Taraxacum* along the Grant Lake shore are likely mixed populations. Wave action and ice scouring create natural disturbance effect along the shore.

Appendix 2: USFS Sensitive Plants Field Form for Grant Lake Pale Poppy, 2013

NOTE: Because of the potentially sensitive nature of information regarding sensitive plant species, the information contained in Appendix 2 is not being distributed to the general public. This information has been filed with FERC with a Privileged designation. It may be obtained by request to Kenai Hydro, LLC or FERC, subject to confidentiality provisions.

Appendix 3: Sensitive Plant Population Map, 2013

NOTE: Because of the potentially sensitive nature of information regarding sensitive plant species, the information contained in Appendix 3 is not being distributed to the general public. This information has been filed with FERC with a Privileged designation. It may be obtained by request to Kenai Hydro, LLC or FERC, subject to confidentiality provisions.

Appendix 4: USFS Sensitive Plants Field Form

USDA FOREST SERVICE 2008
PLANT SURVEY FIELD FORM
 (@ = Required Fields ☺ = Alaska Required)
 DECEMBER 2008

General Information

1) SURVEY ID: @		2) SURVEY NAME:		
3) SURVEY STATUS: @		4) TARGET: @ TESP; INPA; BOTH		5) SOURCE OF WORK:
6) Survey Type: @				
7) Survey Focus: @				
8) Estimate of Survey Area Size (acres):			9) No. of Traverses:	
10) Elevation: Min:		Max:	Average:	11) Elevation UOM:
12) State: @	13) County: @	14) Region: @	15) Forest: @	16) District: @
17) Parameters of Survey (Describe any ecological parameters, survey criteria or combinations of these used to focus the survey. (I.e., north slopes, specific habitat types, certain soils within certain forest conditions, survey timing, etc.):				
18) Survey Comments (Directions, area description, specific comments by visit date, etc.):				

Survey Visits

Required. Enter a Date (MM/DD/YYYY) and Examiners for each visit made.

19) VISIT DATE @	20) LAST NAME @ AND FIRST NAME @ OF EXAMINERS FOR EACH VISIT

R10 TES PLANT ELEMENT OCCURRENCE - FIELD FORM - USDA FOREST SERVICE 12/08

⊗ = required field, ⊗* = conditionally required field, ⊗ = required field Alaska Region

General Information

1) SITE ID: ⊗		2) DATE: ⊗		3) SITE NAME:	
4) NRCS PLANT CODE: ⊗					
5) SCIENTIFIC NAME: ⊗					
6) RECORD SOURCE: ⊗		7) SURVEY ID: ⊗*		8) Survey Name:	
9) EXAMINER(S)- LAST: ⊗			FIRST: ⊗		MIDDLE INITIAL:
LAST:			FIRST:		MIDDLE INITIAL:
10) OWNERSHIP: ⊗		11) Loc. Uncert: ⊗		12) Uncert. Dist: ⊗*	
13) E.O. #		14) STATE: ⊗*		15) COUNTY: ⊗*	
16) REGION: ⊗*		17) FOREST: ⊗*		18) DISTRICT: ⊗*	
19) Area (Est):			20) Area UOM: ⊗*		
21) Canopy Cover Method ⊗* (circle one): COVER PERCENT; DAUBEN; NRMCOV					

Element Occurrence Data

22) EO Canopy Cover: ⊗%Cov: or Cover Class Code:		23) Lifeform:	
24) Number of subpopulations:		25) Plant Found (Revisit): Yes or No	
26) Plant Count: ⊗	27) Count Type: ⊗Genets/Ramets/Undetermined		28) Count: ⊗Actual or Estimate
29) Revisit needed - Yes or No		30) Revisit Date:	
31) Revisit Justification:			
32) Phenology by %⊗ (Sum to 100%): Vegetative Flower/Bud Fruit/Dispersed Seedlings/ Juvenile		33) Population Comments: (e.g., distribution, vigor, density, phenology, dispersal)	
		34) Evidence of disease, competition, predation, collection, trampling, or herbivory: Yes___ or No___	
		35) Evidence Comments:	
36) Pollinator observed - Yes or No 37) Pollinator type(s):			
38) Pollinator comments:			

Site Morphometry

39) Percent Slope: ⊗		40) Slope position: ⊗	
41) Aspect: ⊗ azimuth: or cardinal:			
42) Elev.: Ave: Min: Max:		43) Elev UOM: ⊗*	

Soil Characteristics and Light Conditions

44) Substrate on which EO occurs:		
45) Parent Material:	46) Soil Moisture:	47) Soil Texture:
48) Soil Type:	49) Light Exposure: ⊗	

Grant Lake Hydroelectric Project (FERC No. 13212)

Avian Protection Plan

Draft

Kenai Hydro, LLC

May 2015

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Acronyms and Abbreviations

ADF&G	Alaska Department of Fish & Game
APLIC	Avian Powerline Interaction Committee
APP	Avian Protection Plan
ARRC	Alaska Railroad Corporation
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
cfs	cubic feet per second
CNF	Chugach National Forest
DBH	diameter and breast height
DLA	Draft License Application
ECM	Environmental Compliance Manager
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
GPS	global positioning system
KHL	Kenai Hydro, LLC
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MW	megawatt
NAVD 88	North American Vertical Datum of 1988
Project	Grant Lake Hydroelectric Project
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

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Avian Protection Plan

Draft

Grant Lake Hydroelectric Project (FERC No. 13212)

1 INTRODUCTION

This document provides a draft of Kenai Hydro, LLC's (KHL) proposed Avian Protection Plan (APP) for the Grant Lake Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) No. 13212. The Project has developed the guidelines in this APP to support avian conservation during construction and operations of the Project, including avoidance and minimization of disturbance to avian species. The principles presented in these voluntary guidelines are intended to allow the Project to tailor the APP to the Project-specific construction and operations as well as furthering the conservation of avian species in the Project area. Implementing the principles contained in these APP guidelines will greatly reduce avian risk as well KHL's risk of enforcement under both the Migratory Bird Treaty Act (MBTA) and the Bald Eagle Protection Act (BGEPA). By following the guidelines within this APP, specific avian issues can be addressed through voluntary compliance.

Activities associated with the proposed construction and operation of the Project include the construction of a powerhouse, access road, tailrace channel, switchyard connection, penstock and tunnel, temporary construction access routes and staging areas, diversion structure, and transmission line. The activities and structures associated with this Project have the potential to impact the bird populations within the area.

1.1. Location

The proposed Grant Lake Project will be located near the community of Moose Pass, Alaska (population 219) in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska (population 2,693), and just east of the Seward Highway (State Route 9); this highway connects Anchorage (population 291,826) to Seward. The Alaska Railroad (ARRC) parallels the route of the Seward Highway, and is also adjacent to the Project area. Grant Lake is located in the mountainous terrain of the Kenai Mountain Range and has a normal water surface elevation of 703 feet North American Vertical Datum of 1988 (NAVD 88) and surface area of approximately 1,790 acres. A map showing the location of the Project is provided in Figure 1.¹

¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015b). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

1.2. Project Description

The Grant Lake Project will consist of the Grant Lake/Grant Creek development, an intake structure in Grant Lake, a tunnel, a surge chamber, a penstock, a powerhouse, tailrace channel with fish exclusion barrier, access roads, a step-up transformer, a breaker, a switchyard, and an overhead transmission line. The powerhouse will contain two Francis turbine generating units with a combined rated capacity of 5 megawatts (MW) with a maximum design flow of 385 cubic feet per second (cfs). The general proposed layout of the Project is shown in Figure 2.

1.2.1. Grant Creek Diversion

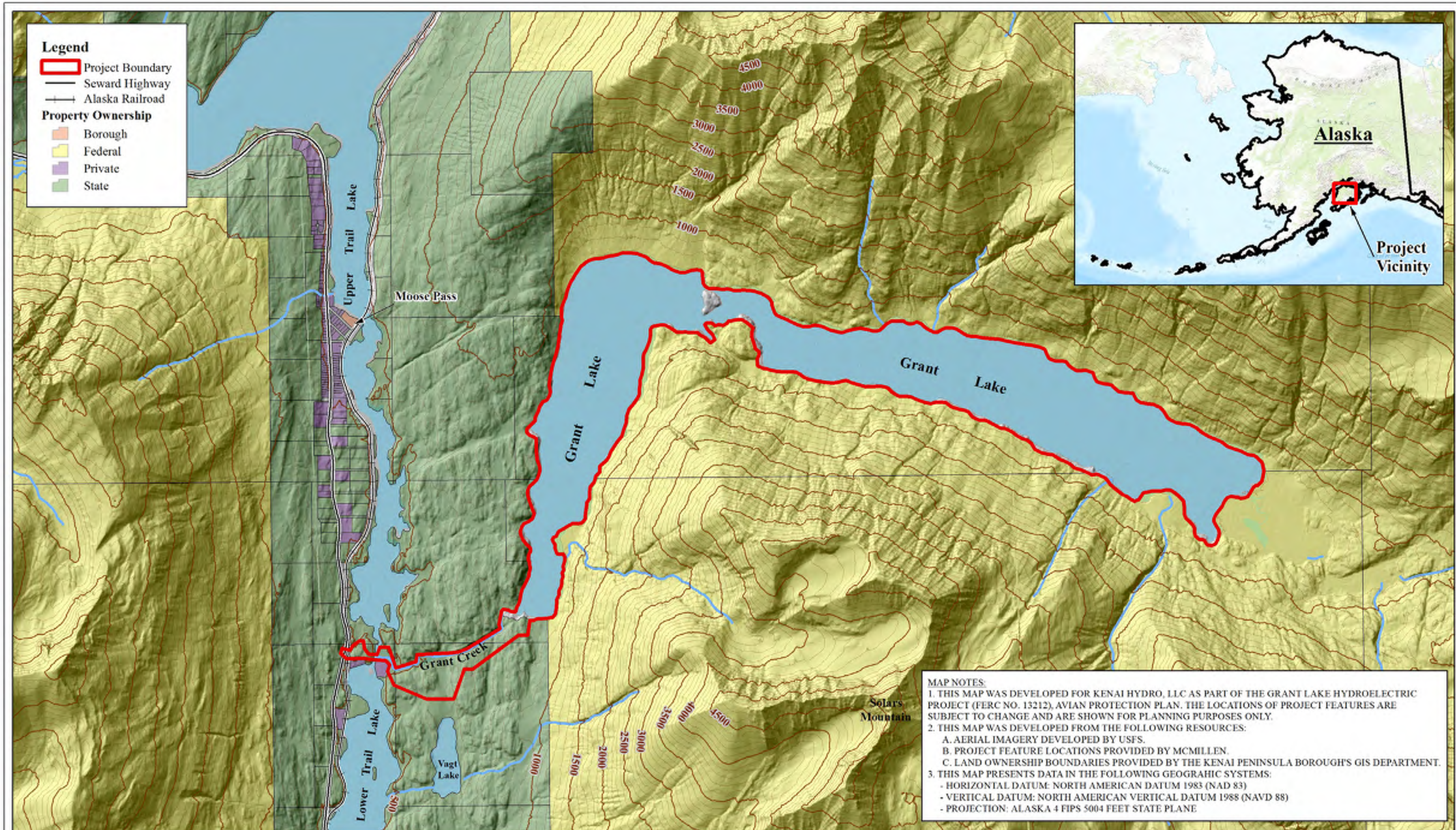
The proposed Project consists of a reinforced concrete intake structure located on the south side of the natural lake outlet. No structural modifications would be made to the existing lake natural outlet. The Project will divert water up to a maximum of 385 cfs into the intake structure. When the lake level exceeds the natural outlet of 703 feet NAVD 88, a maximum of 385 cfs will be diverted into the intake structure and routed to the powerhouse. Flow in exceedance of 385 cfs would pass over the natural outlet to Grant Creek.

1.2.2. Grant Lake Intake

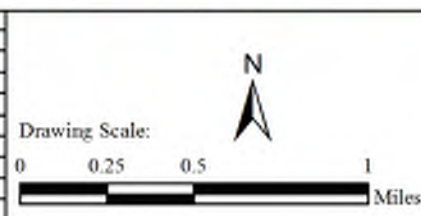
The Project water intake would be a concrete structure located approximately 500 feet east of the natural outlet of Grant Lake and adjacent to the shore. The intake structure consists of a reinforced concrete structure extending from approximately elevation 675 NAVD 88 feet up to a top deck elevation of 715 feet NAVD 88. The structure has an outside dimension of 38 feet by 20 feet. The structure includes intake trashracks, a selective withdrawal intake gates with wire rope hoist, and a roller gate located on the water conveyance intake. The intake is divided into three bays, each fitted with an intake gate to provide flexibility for delivering the full flow range of 58 cfs to 385 cfs. The gate position within the water column will be set to deliver the required water temperature to Grant Creek below the powerhouse. The roller gate would be 11 feet tall by 11 feet wide and fitted with a wire rope hoist lift mechanism. Electrical power will be extended from the powerhouse to the intake to operate the intake and isolation gates. Pressure transducers will be installed to monitor the water level at the lake as well as within the intake tower. An access bridge 16 feet wide would be installed from the lake shore out to the intake structure.

The intake would allow for drawdown of Grant Lake to elevation 690 feet NAVD 88 thereby creating approximately 18,790 acre-feet of active storage for the Project between elevations 703 feet NAVD 88 and 690 feet NAVD 88. The intake can be designed to allow the Project to draw water near the surface at various levels of storage, if deemed necessary to meet downstream temperature requirements. The invert of the intake would be at elevation 675 feet NAVD 88 to provide for adequate submergence to the tunnel.

A bypass pipe would extend from the intake structure to the base of the existing water fall in Grant Creek. The installed pipe would be 900 feet long and approximately 18 inches in diameter allowing the minimum flow ranging from 5 to 10 cfs to be released. A control gate would be located within the intake structure to regulate and monitor the bypass flow releases.



REV	DATE	BY	DESCRIPTION



MCMILLEN, LLC

THE SONNA BUILDING
912 MAIN ST. SUITE 200
KENAI, AK 99550

OFFICE: 208.342.4314
FAX: 208.342.4315

Developed For:



GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

AVIAN PROTECTION PLAN

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

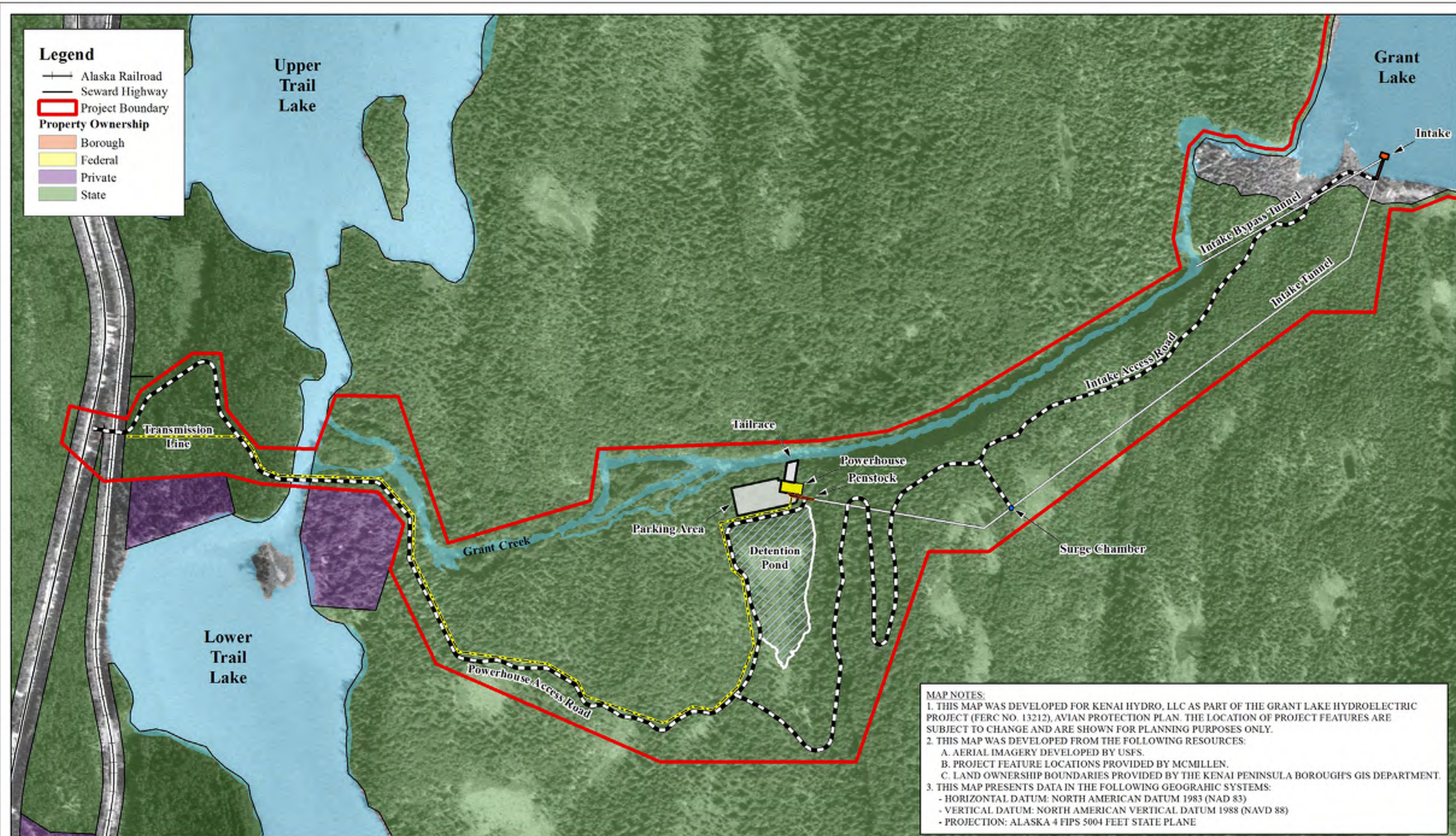
DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 4/29/2015

DRAWING

SCALE: 1:35,000



REV	DATE	BY	DESCRIPTION



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Homer Electric Association, Inc.

A Toxstone Energy Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212		DESIGNED: Mike Woodbury	DRAWING
AVIAN PROTECTION PLAN		DRAWN: Mike Woodbury	
Figure 2 General Project Features And Facilities		CHECKED: C. Wainock	
		ISSUED DATE: 4/29/2015	SCALE: 1:5,000

1.2.3. Tunnel and Surge Chamber

The intake structure would connect to a tunnel extending to the Project powerhouse. The tunnel would be approximately 3,300 feet long with a 10-foot-horseshoe shape. Drill and shoot techniques would be used to construct the tunnel using an entrance portal at the powerhouse for access. The lower 900 feet of tunnel would be constructed at a 15 percent slope. This section of the tunnel will be concrete lined. The upper 2,400 feet of tunnel would be constructed at a 1 percent slope and would be unlined. This proposed arrangement provides a low pressure hydraulic conduit in the upper tunnel reaches suitable for an unlined tunnel. A surge chamber is located at the transition between the two tunnel slopes. This chamber is approximately 10 feet in diameter and would extend from the tunnel invert elevation of 670 feet NAVD 88 to the ground surface at approximately elevation 790 feet NAVD 88. The surge chamber provides a non-mechanical relief for hydraulic transients that could occur if a load rejection occurs at the powerhouse. Rock anchors and shotcrete stabilization techniques would be used to stabilize the tunnel exposed rock surface where required. A rock trap would be located at the surge chamber location to collect dislodged rocks from the unlined tunnel section.

The tunnel would transition to a 6-foot diameter steel penstock approximately 150 feet from the powerhouse. The transition section would consist of a welded steel concentric structure which transitions from the 10-foot tunnel section to the 72-inch diameter penstock. A steel liner would extend from the downstream tunnel portal approximately 300 feet into the tunnel. The liner would be installed within the exposed rock surface with grout pumped behind the liner to provide an impermeable and structurally sound tunnel section. A similar steel tunnel liner section would be installed at the connection to the intake structure for a total distance of approximately 150 feet.

1.2.4. Penstock and Surge Tank

A 72-inch diameter steel penstock extends 150 feet from the downstream tunnel portal to the powerhouse. The welded steel penstock would be supported on concrete pipe saddles along the penstock route. The penstock would bifurcate into two 48 inch diameter pipes feeding each of the powerhouse turbines. The penstock fitted with welded steel thrust rings would be encased in concrete thrust blocks at the tunnel portal as well as the powerhouse. These thrust blocks would be designed to resist the full hydraulic load associated with the Project operation. An interior and exterior coating system would be applied to the penstock providing full corrosion protection. An access manway would be provided on the exposed penstock section allowing access for future inspection and maintenance.

1.2.5. Tailrace

The powerhouse draft tubes would connect to a tailrace channel located on the north side of the powerhouse structure. The draft tubes would extend from a low point elevation of approximately 509 feet NAVD 88 up to the tailrace channel invert elevation of 515 feet NAVD 88. The channel would continue to the east bank of Grant Creek. Each of the draft tubes will be gated allowing the flow to be routed to the detention pond for spinning reserve operation. Isolation bulkheads would be provided allowing dewatering of the draft tubes for inspection and maintenance of the turbine. The tailrace channel would be trapezoidal in shape with a bottom

width of 43 feet, side slopes of 2H:1V and a channel depth ranging from 13 feet at the powerhouse to 7 feet at the creek. A concrete structure would be constructed at the confluence of the channel and Grant Creek. A picket-style fish barrier would be placed on this concrete structure as well as provision for installation of stoplogs allowing the tailrace channel to be dewatered for inspection and maintenance. The channel would be excavated from native material and lined with riprap to provide a long term stable section. A staff gage and pressure transducer will be placed in the channel to monitor the water level in the channel.

1.2.6. Tailrace Detention Pond

An off-stream detention pond would be created to provide a storage reservoir for flows generated during the rare instance when the units being used for spinning reserve are needed for the electrical transmission grid. In this situation, the additional powerhouse flows would be diverted into the detention pond and then released slowly back into Grant Creek. It is anticipated that the discharge associated with a spinning reserve event would be dispersed via the tailrace channel which flows into Grant Creek. The detention pond would be located immediately south of the powerhouse and would have a capacity of approximately 15 acre-feet and a surface area of approximately 5 acres.

1.2.7. Powerhouse

The powerhouse would be located on the south bank of Grant Creek immediately west of the downstream tunnel portal and adjacent to the detention pond. The powerhouse would consist of a concrete foundation and a pre-engineered metal building superstructure. The building would be approximately 100 feet long (east to west) and 50 feet wide (north to south). The penstock would tie into the powerhouse on the south side and the tailrace channel on the north side of the building. The building floor would be set at approximately elevation 523 feet NAVD 88 and the centerline of the turbine runner at elevation 526 feet NAVD 88. The draft tube floor would be set at elevation 509 feet NAVD 88 with an operating tailwater inside the draft tubes ranging from 518.0 feet to 519.3 feet NAVD 88.

Two horizontal Francis type turbine/generator units with a rated total capacity of 5,000 kilowatt (kW) would be housed in the powerhouse structure. The powerhouse flow would range from a maximum of 385 cfs to a minimum of 58 cfs with each turbine operating flow ranging from 192.5 cfs to 58 cfs. Associated mechanical and electrical equipment would include hydraulic power units, turbine isolation valves, penstock drain, utility water system, lube oil system, oil water separator, battery system, and heating, ventilating, and air conditioning (HVAC) system. A control room housing the motor control center, communication rack, fiber optic panels, computers, and related equipment would also be provided. The Project switchgear would be located within the powerhouse. A standby generator, transformer, and fused pad mounted switch assembly would be mounted on an enclosed switchyard located on the south side of the powerhouse. Dewatering pumps would be provided to support dewatering of the turbine draft tubes. A 30-ton bridge crane would be provided for equipment maintenance. The crane would travel on rails mounted on the steel building support columns. An energy dissipation valve would extend off the penstock and provide bypass flows into the Project tailrace.

1.2.8. Transmission Line/Switchyard

An overhead 115-kilovolt (kV) transmission line will extend from the powerhouse to the existing 115-kV transmission line located on the east side of the Seward Highway. In addition to any overhead transmission structures, the facilities would include a switchyard at the powerhouse consisting of a 115-kV fused pad-mounted disconnect switch and a pad-mounted 115-kV GSU transformer. The transmission line would run from the powerhouse parallel to the access road where it would intersect Chugach Electric's transmission line. The interconnection would have a pole mounted disconnect switch.

Wooden poles would be designed as tangent line structures on about 250-foot centers. Design of the line would also incorporate the latest raptor protection guidelines. Collision avoidance devices would be installed on the line at appropriate locations to protect migratory birds.

1.2.9. Appurtenant Facilities

The following pertinent mechanical and electrical equipment will be applicable to the Project:

- Intake selective withdrawal intake gate
- Intake trashrack system
- Intake roller gate used to isolate the tunnel and downstream generation facilities
- Control gate located on the bypass pipeline pipe
- A 30-ton bridge crane in the powerhouse
- Pumps located in the powerhouse used to dewater the draft tubes
- Pressure transducers located throughout the project used to monitor the water level in the reservoir, tunnel and tailrace, as well as pressures in the tunnel and penstock
- Security cameras at the intake and powerhouse
- Sanitary waste holding tank at the powerhouse
- A power line extending from the powerhouse to the intake to supply electrical power to the gates and trashrack
- Temperature instrumentation at the intake structure and at various stream locations to monitor water temperature

This equipment along with other identified miscellaneous mechanical and electrical equipment will be developed during the final design and included in the construction documents.

1.2.10. Access Roads

The Project would require an access road to both the powerhouse located near the base of the Grant Creek canyon and to the intake at Grant Lake. The access road would be used to construct the Project and afterwards, to maintain the facilities. It is anticipated that the powerhouse would be visited approximately once a week and the intake visited approximately once a month beginning just after the ice melts and continuing until just before freeze up. The powerhouse access road would be maintained year around. The intake access road would not be maintained in winter.

The 24-foot wide access road would tie into the Seward Highway at approximately MP 26.9. The route would travel eastward to cross Trail Lakes at the downstream end of the narrows between Upper and Lower Trail lakes and then continue eastward to the powerhouse. This route would be approximately one mile long. It would cross the ARRC tracks near an existing railroad crossing for a private driveway. The road would cross the narrow channel connecting Upper and Lower Trail lakes with an approximately a 110-foot-long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The proposed route would avoid cuts and travel along the base of some small hills on the south side of Grant Creek to the powerhouse. This proposed access road would have one 90-degree crossing of the Iditarod National Historic Trail (INHT).

The intake access road would be approximately one mile long, beginning at the powerhouse. The road would ascend a 230-foot bluff to reach the top of the southern rim of the Grant Creek canyon. A series of road switchbacks would be required to maintain a road grade of less than 8 percent. The road would then generally follow the southern edge of the canyon until it descends to Grant Lake. A small parking area and turn-a-round area would be provided at the intake structure. A 16-foot wide bridge will extend from the bank out to the intake structure.

The road would be gravel with a 16-foot top width. Maximum grade would be 8 percent. Periodic turnouts would be provided to allow construction traffic to pass. Fifty-foot radius curves would be used to more closely contour around the small steep hills of bedrock to limit the extent of the excavation and the height of the embankments.

1.2.11. Project Operations

Once constructed, the Project will operate to generate power throughout the calendar year based on inflow, available storage, lake elevation, and minimum flow requirements with Grant Creek. The lake will operate from the natural Grant Lake outlet elevation of 703 feet NAVD 88 down to a minimum lake elevation of 690 feet NAVD 88. The lake will be drawn down in the winter months utilizing a combination of Grant Creek inflows and stored water to meet the instream flows in the bypass reach while also maintaining power production. Water flow predictions will be used to estimate snowpack and the corresponding runoff volume. The Project operation will then be tailored to maximize winter power production while also ensuring the lake refills to elevation 703 feet NAVD 88.

2 REGULATIONS PROTECTING AVIAN SPECIES

This section describes the applicable regulations pertinent for the development of this APP. Native birds in the United States are protected primarily under three main pieces of legislation: the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act (BGEPA). Additional protections are provided to migratory birds by FERC through a memorandum of understanding (MOU) with the U.S. Fish and Wildlife Service (USFWS) (FERC and USFWS 2011). The USFWS is, in part, responsible for the protection of wildlife including avian species. The USFWS mission, in part, is “to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit [of] the

American people.” The U.S. Forest Service (USFS) identified a list of sensitive avian species requiring protection measures for projects located on the Chugach National Forest. Furthermore, Audubon publishes an Avian Species of Special Interest list for Alaska which state and federal agencies typically reference as part of the review process to assess project impacts on avian species.

2.1. Endangered Species Act

The purpose of the ESA is “to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and to provide a program for the conservation of these species.” Section 9 of the ESA prohibits “take” of threatened or endangered species, which includes killing, injuring, or harming a listed species or its habitat. Any activity that may result in the “incidental take” of a threatened or endangered species requires permits issued from the USFWS under Sections 7 or 10 of the ESA. There are no documented threatened or endangered avian species or critical habitats in the Project area.

2.2. Migratory Bird Treaty Act

Most avian species in Alaska are protected wildlife under the MBTA. Under MBTA (16 U.S.C. 703), it is illegal for anyone to “take” migratory birds, their eggs, feathers, or nests. “Take” includes by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof. The MBTA does not distinguish between intentional and unintentional take. In Alaska, all native birds except grouse and ptarmigan (protected by the State of Alaska) are protected under the MBTA. The Alaska Department of Fish & Game’s (ADF&G) legal framework to manage these upland game bird species is derived from Article VIII of the Alaska Constitution and implementing statutes. Alaska Statute Title 16 is the primary statute governing the state’s management of fish and wildlife.

2.3. Bald and Golden Eagle Protection Act

The BGEPA is the primary law protecting eagles. BGEPA prohibits “take” of eagles without a permit (16 USC 668-668c). BGEPA defines “take” to include “pursue, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb,” and prohibits take of individuals and their parts, nests, or eggs. The USFWS expanded this definition by regulation to include the term “destroy” to ensure that “take” includes destruction of eagle nests. The term “disturb” is further defined by regulation as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause,....injury to an eagle, a decrease in productivity, or nest abandonment” (50 CFR 22.3).

2.4. Chugach National Forest Sensitive Species and Species of Special Interest

Six bird species found in the Project area are listed by the USFS as sensitive species or species of special interest (osprey, Northern goshawk, bald eagle, Townsend’s warbler, marbled murrelet, and trumpeter swan). Additionally, eight more bird species are considered high-priority species (Red-Listed Species) for conservation in Alaska by the Audubon Alaska’s Watchlist (red-throated loon, varied thrush, olive-sided flycatcher, Kittlitz’s murrelet, solitary sandpiper, lesser yellowlegs, wandering tattler and blackpoll warbler). Although neither federally listed nor

candidate threatened or endangered, these species are of increasing concern because of low and/or declining populations or other population threats. These species of conservation concern have either been documented or are likely to occur in terrestrial and freshwater habitats in the Project area during the breeding, migration, and/or wintering seasons. The Project would not affect any habitats designated as high-value or essential for these bird species.

3 AVIAN SPECIES AT GRANT LAKE

Wildlife studies, including avian studies (waterfowl, raptors, and breeding landbirds) were performed in support of KHL's licensing of the Project. The Grant Lake Terrestrial Resource Study Report details all avian investigations conducted and their associated findings (KHL 2014; 2015a). A summary of avian study results are presented below.

3.1. Waterfowl

Field efforts were conducted to evaluate waterbirds in the Project area. Trumpeter swans were observed on March 3, 2013, on the east side of Lower Trail Lake. Winter surveys detected trumpeter swans in the open water portion at the south end of Grant Lake (December 4, 2013) and on the east side of Lower Trail Lake (March 27, 2014). Trumpeter swans feed primarily on submerged vegetation. Grant Lake and the narrows may or may not provide foraging habitat for this species in the winter, but their presence in these area indicate that the swans are benefiting from the open water habitat in some way.

3.2. Bald Eagles and other Raptor Species

Field efforts were conducted to evaluate presence of Northern goshawks in the Project area. One adult female Northern goshawk was detected during the 2-year sampling period in 2013-2014. The habitat in which it was detected has been described in the Terrestrial Resources Study Report (KHL 2014; 2015a).

Incidental observations of other raptors during field efforts included:

- A bald eagle nest in a large cottonwood along Grant Creek was recorded with a pair of adults in attendance; the adults appeared to be in the process of incubating eggs as assessed by behavior on May 22, 2013. This nest sight has been documented in previous years (2010 and 2012). The pair was re-sighted on June 14-17, 2013 and again appeared to be incubating eggs. During the field effort (July 8-9, 2013), the pair was once again sighted in the nest and appeared to have at least one hatched young as assessed from observed feeding behavior.
- An immature bald eagle was observed on July 19, 2013, attempting to capture a duckling.
- An adult bald eagle was observed flying over Lower Trail Lake on June 25, 2014.
- A pair of adult bald eagles was observed perched along Lower Trail Lake on July 10, 2014.
- A pair of merlin was detected on May 21, 2013, on the small island just south of the Trail Lake narrows. The merlin did not appear to be incubating at that time; however, they did appear to have established a breeding territory based on assessed behavior. The pair was

detected again during subsequent field visits at the same location; however, no effort was made to locate a nest due to high water near the suspected location of the nest.

- A merlin was detected on June 25, 2014, in the vicinity of the small island just south of the Trail Lake narrows, and again on July 9 and 10, 2014.
- An adult male osprey (based on plumage) was detected flying over the Trail Lake Narrows during the June 14–17, 2013 field visit.

3.3. Breeding Landbird Species

Surveys for breeding landbirds and shorebirds in the Project area were conducted to collect baseline information on the occurrence, and habitat use of breeding landbird and shorebird species in the Project area. Point-count data were used with the habitat map for qualitative habitat-association analyses. More than 65 bird species (excluding waterfowl and raptors) were recorded during surveys or as incidentals during field efforts for the Grant Lake project. No threatened or endangered species were observed, but six bird species of concern were recorded during the field efforts: Townsend's warbler, varied thrush, olive-sided flycatcher, solitary sandpiper, lesser yellowlegs, and wandering tattler.

4 PROJECT IMPACTS

4.1. Impacts Common to all Species

Removal or loss of vegetation affects avian species directly by loss of old growth trees for nesting, foraging, and cover habitat. Nests and habitat are lost every year to natural events that include high winds, flooding, and fire. The loss of the vegetative habitat from the previous season can be a limiting factor in successful breeding, but this is not predicted to impact avian species populations on the Kenai. The direct removal of any active nest structure is prohibited. The USFWS (2005) has published recommendations for time periods to avoid vegetation clearing. These recommendations are provided to help avoid vegetation removal and "take" as defined by the MBTA during the breeding season.

Direct mortality may increase with the placement of power lines along the access route. Avian species unaccustomed to these lines may be impacted by flying into the line or injury by electrocution. Collision and nesting deterrent methods will be considered during the Project design phase to avoid or minimize impacts of overhead power lines.

4.2. Impacts Specific to Waterfowl Species

Changes in lake and creek outflow levels during the winter may indirectly impact waterfowl and waterbirds like trumpeter swans and diving ducks by decreasing or altering open water habitat at the outlet of Grant Lake and the "mouth" of Grant Creek at the narrows. Decreased open water availability may lead to decreased resting and foraging habitat during the winter season.

Waterfowl that overwinter in the region and spend time on waterbodies in this area of the Kenai Peninsula are currently subject to the natural freeze up / thaw processes during the winter. The

possible Project-related alterations to open water habitat are not predicted to impact the overall waterfowl population of the Kenai Peninsula.

4.3. Impacts Specific to Bald Eagles

The following bald eagle ecology information is taken from the National Bald Eagle Management Guidelines (USFWS 2007).

4.3.1. Feeding and Nesting Habitat

Bald eagles are opportunistic feeders. Although fish comprise much of their diet, they also prey on waterfowl, shorebirds/colonial waterbirds, small mammals, turtles, and carrion. Eagles are visual hunters and typically locate their prey from a conspicuous perch, or soaring flight, then swoop down and strike. Wintering bald eagles often congregate in large numbers along streams to feed on spawning salmon or other fish species, and often gather in large numbers in areas below reservoirs, especially hydropower dams, where fish are abundant. Wintering eagles will take birds from rafts of ducks at reservoirs and rivers, and congregate on melting ice shelves to scavenge dead fish from the current or the soft melting ice. Bald eagles will also feed on carcasses along roads, in landfills, and at feedlots.

During the breeding season, adults carry prey to the nest to feed the young. Adults feed their chicks by tearing off pieces of food and holding them to the beaks of the eaglets. After fledging, immature eagles are slow to develop hunting skills, and must learn to locate reliable food sources and master feeding techniques. Young eagles will congregate together, often feeding upon easily acquired food such as carrion and fish found in abundance at the mouths of streams and shallow bays and at landfills.

Bald eagles generally nest near coastlines, rivers, large lakes, or streams that support an adequate food supply. They often nest in mature or old-growth trees; snags (dead trees); cliffs; rock promontories; rarely on the ground; and with increasing frequency on human constructed structures including power poles and communication towers. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that can weigh more than 1,000 pounds. Nest sites typically include at least one perch with a clear view of the water where the eagles usually forage. Shoreline trees or snags located in reservoirs provide the visibility and accessibility needed to locate aquatic prey. Eagle nests are constructed with large sticks, and may be lined with moss, grass, plant stalks, lichens, seaweed, or sod. Nests are usually about 4-6 feet in diameter and 3 feet deep, although larger nests exist.

4.3.2. Nesting Timeline and Sensitivity

Nesting activity begins several months before egg-laying. Egg-laying dates are as early as April in Alaska. Incubation typically lasts 33-35 days, but can be as long as 40 days. Eaglets make their first unsteady flights about 10 to 12 weeks after hatching and fledge (leave their nests) within a few days after that first flight. However, young birds usually remain in the vicinity of the nest for several weeks after fledging because they are almost completely dependent on their parents for food until they disperse from the nesting territory approximately 6 weeks later.

During the breeding season, bald eagles are sensitive to a variety of human activities. However, not all bald eagle pairs react to human activities in the same way. Some pairs nest successfully just dozens of yards from human activity, while others abandon nest sites in response to activities much farther away. This variability may be related to a number of factors, including visibility, duration, noise levels, extent of the area affected by the activity, prior experiences with humans, and tolerance of the individual nesting pair. The relative sensitivity of bald eagles during various stages of the breeding season is outlined in Table 1.

Table 1. Nesting bald eagle sensitivity to human activities.

Phase	Activity	Timeline	Sensitivity to Human Activity	Comments
I	Courtship and Nest Building	February – mid-May	Most Sensitive period; likely to respond negatively	Most critical time period. Disturbance is manifested in nest abandonment. Bald eagles in newly established territories are more prone to abandon nest sites.
II	Egg Laying	April – mid-June	Very sensitive period	Human activity of even limited duration may cause nest desertion and abandonment of territory for the breeding season.
III	Incubation and early nestling period (up to 4 weeks)	April – mid-June	Very sensitive period	Adults are less likely to abandon the nest near and after hatching. However, flushed adults leave eggs and young unattended; eggs are susceptible to cooling, loss of moisture, overheating, and predation; young are vulnerable to elements.
IV	Nestling period, 4 to 8 weeks	Early May – mid-September	Moderately sensitive period	Likelihood of nest abandonment and vulnerability of the nestlings to elements somewhat decreases. However, nestlings may miss feedings, affecting their survival.
V	Nestlings 8 weeks through fledgling	August – mid-October	Very sensitive period	Gaining flight capability, nestlings 8 weeks and older may flush from the nest prematurely due to disruption and die.

If agitated by human activities, eagles may inadequately construct or repair their nest, may expend energy defending the nest rather than tending to their young, or may abandon the nest altogether. Activities that cause prolonged absences of adults from their nests can jeopardize eggs or young. Depending on weather conditions, eggs may overheat or cool too much and fail to hatch. Unattended eggs and nestlings are subject to predation. Young nestlings are particularly vulnerable because they rely on their parents to provide warmth or shade, without which they may die as a result of hypothermia or heat stress. If food delivery schedules are interrupted, the young may not develop healthy plumage, which can affect their survival. In addition, adults startled while incubating or brooding young may damage eggs or injure their young as they abruptly leave the nest.

Older nestlings no longer require constant attention from the adults, but they may be startled by loud or intrusive human activities and prematurely jump from the nest before they are able to fly or care for themselves. Once fledged, juveniles range up to 0.25 mile from the nest site, often to a site with minimal human activity. During this period, until about six weeks after departure from the nest, the juveniles still depend on the adults to feed them.

Disruption, destruction, or obstruction of roosting and foraging areas can also negatively affect bald eagles. Disruptive activities in or near eagle foraging areas can interfere with feeding, reducing chances of survival. Interference with feeding can also result in reduced productivity (number of young successfully fledged).

5 AVIAN PROTECTION MEASURES

KHL has developed the guidelines in this APP to support avian conservation during construction and operations of the Project. Protection measures are detailed below separately for measures related to general migratory bird species, as part of the MBTA, and measures related to bald eagles as part of the BGEPA. The principles presented in these voluntary guidelines are intended to allow the Project to tailor an APP that will allow for construction and operation of the Project in a responsible fashion while furthering the conservation of avian species. Implementing the principles contained in these APP guidelines will greatly reduce avian risk as well its own risk of enforcement under both the MBTA and BGEPA.

KHL is committed to working cooperatively towards the protection of migratory birds while maintaining its goal of developing the Project. KHL will comply with the regulatory requirements protecting avian species, as well as the need to obtain and comply with all necessary permits, monitor incidents of avian mortality, and make reasonable efforts to construct and maintain infrastructure to reduce the incidence of avian mortality.

KHL plans on limiting avian mortality by focusing its efforts in a cost-effective manner on the areas that pose the greatest risk to migratory birds. Therefore, the protection measures outlined below focus on: 1) avoiding disturbance during the breeding season; 2) avoiding incompatible power line design; and 3) establishment of vegetation removal timelines.

Destruction of active nests, loss of adults, young, and / or eggs is considered a “take” under the MBTA. Bird mortality may increase with the placement of power lines along the access route. Lastly, removal of vegetation during the breeding season directly impacts forest nesting and foraging raptor species.

KHL will implement the following protection measures during the construction and operations phases of the Project to minimize impacts to birds. Further, in accordance with the Public Safety and Access Plan (to be submitted with the FLA), hunting, fishing, and trapping by KHL employees and contractor personnel in the Project area is strictly prohibited during Project construction and operations. The following voluntary practices will be incorporated into the development and maintenance phases of the Project and are intended to mitigate for avian “take” as defined by BGEPA and MBTA. These measures are described in more detail in Sections 5.1 and 5.2.

The protection measures for migratory birds consist of:

- Plan of construction and operation timeline
- Risk assessment of activity and timeline
- Measures taken based on Project actions
 - Monitoring associated with vegetation removal
 - Monitoring associated with power line and infrastructure placement
- Documenting and reporting

The protection measures for bald eagles consist of:

- Plan of construction and operation timeline
- Risk assessment of activity and timeline
 - Aerial nest surveys
- Measures taken based on Project actions
 - Nest mitigation and monitoring
 - Buffer boundaries
 - Nest monitoring
- Documenting and reporting

5.1. Mitigating for MBTA “Take” of Migratory Birds

5.1.1. Plan of Construction and Operation Timeline

Removal of vegetation during the breeding season directly impacts forest nesting and foraging raptor species including Northern goshawks and sharp-shinned hawks as well as many nesting songbirds all of which are protected under MBTA. Destruction of active nests, loss of adults, young, and / or eggs is considered a “take” under the MBTA. To the extent that is practicable, KHL will adopt best management practices (BMP) associated with the typical vegetation growing season between May 1 and July 15 of construction years. Where curtailment of construction activities is not practicable, KHL will conduct nest surveys in advance of vegetation clearing to avoid areas with active nests. This plan will minimize potential “take” as defined by MBTA.

5.1.2. Risk Assessment of Activity and Timeline

A risk assessment will be undertaken to determine the impacts of construction and operations (or maintenance) during the breeding/nesting season and non-breeding season. If vegetation removal during construction and / or operation cannot be completely restricted during the USFWS recommended timeline (May 1 – July 15), an assessment will be undertaken to delineate the time periods in which vegetation removal would cause the least impact to breeding birds, for example removing vegetation prior to egg laying. The assessment may include input and recommendations from knowledgeable area biologists.

Mortality (direct impact) to breeding birds and shorebirds may increase with the placement of power lines along the access route. Birds, especially resident species, unaccustomed to these lines may be impacted by flying into the line or through electrocution. Raptors attracted to

power poles for nest construction (Osprey) may suffer mortality events by electrocution, while at the same time cause power outages, impacting the Project.

5.1.3. Measures Taken Based on Project Actions

Mitigation actions and associated measures are described below for construction activities and Project operations.

5.1.3.1. *Monitoring Associated with Vegetation Removal*

Most avian species in Alaska are protected wildlife under the MBTA. Species will nest on the ground, in trees and shrubs, and nest detection is very difficult as birds are secretive in nature and many of the structures themselves are inconspicuous. Protocols have been developed for surveying prior to vegetation removal; however, these methods are not 100 percent effective at identifying all nest locations. Exact survey and monitoring methods would be developed prior to construction, however below is a summary of the anticipated methods. Monitoring would occur within the Project footprint and a 100-foot buffer around all Project infrastructure and construction areas.

Monitoring Method

For vegetation removal activities occurring during construction and operation that occur during the bird nesting season (May 1 – July 15), an approved Biologist will survey the anticipated construction work areas including a 100-foot buffer. Surveys will be conducted prior to any vegetation removal activity and within three calendar days of the commencement of such activity.

Prior to surveys, a comprehensive list of bird species with potential to nest in the area will be reviewed. This list identifies the specific and preferred habitats where nesting is generally expected to occur and categorized by the following nesting habitats: grassland (ground nesting), shrubland, tree, and structure (cavity).

Surveys will consist of walking transects as well as a sit and scope (survey station) component that will be spaced accordingly to allow complete visual coverage of all habitats including: open fields, barren areas, manmade structures (e.g., bridges), riparian corridors, wooded areas and brush dominated ground cover within, and adjacent to, the project area that could support nesting birds. Appropriate spacing will ultimately be determined by the Biologist in the field, but the following guidelines will be implemented to ensure adequate coverage of habitats:

- 100-300 feet for open grasslands
- 25-50 feet for areas with dense brush or shrubs.
- < 25 feet as needed for a dense stand of trees or very dense vegetation

The Biologist will spend 5-10 minutes at each survey station recording all birds seen and heard, including flyovers (flyovers should be noted as such).

When breeding or nesting activities are suspected or observed, the surveyor will spend additional time watching the activity (with the aid of binoculars when appropriate) to determine the status of the observed activity. The following behaviors are indicators that an active nest may be present:

- Carrying material to build nests within the survey area
- Copulation
- Carrying food or feeding young
- Carrying fecal sacks away from nest
- Mate-feeding; repeated “bee-line” flying to likely nest site
- Observation of nest
- Observation of chicks
- Females giving call or chip notes alerting their mate that they are off the nest
- Auditory evidence of chicks

When conducting walking transects between survey stations an “Active Nest Search” component will be implemented and consist of a thorough walk-through documented search of all vegetation including: trees, shrubs, grasslands, down trees as well as standing snags for active nests in the proposed disturbance area. This will also include actively searching for low-level, ground, cavity and tree nests in the vegetation proposed for disturbance. For example, cavity nesting “Active Nest Searches” would include searching/inspecting all relevant local features: structures, suitable tree holes and cavities and may require an extension pole with mirror to make a determination. If any nests are discovered, it will quickly be determined whether they are actively being used or not. If there is inconclusive evidence to determine whether the nest is being actively utilized, it may be necessary to conduct additional surveys. Up to three additional survey events of the nest itself, up to two hours each, will be conducted to document the nest is not active.

The location of any confirmed active nest of a protected species will be included in the daily survey log and then flagged in the field. The survey log(s) and a map illustrating the location of the nest will be submitted to Project staff for review. Daily survey logs will include:

- Observer
- Date of survey
- Survey start and end times
- Species observed
- Weather conditions
- Description of nests observed
- Description of survey location
- Description of vegetative habitat(s)
- Map of survey station locations and active nest search routes
- Description of the developmental stage of juvenile birds observed and the anticipated fledge date

Frequency and timing of nest surveys prior to vegetation removal:

- Surveys will be conducted between May 1 and July 15
- Two (2) surveys will be conducted to determine the presence of active nests within each designated construction / maintenance area

The requirements of the pre-construction survey protocol consist of:

- Surveys shall be conducted no more than 3 days prior to vegetation clearing
- Survey areas will be defined by the construction/operation schedule and will be conducted prior to any ground disturbance, vegetation or tree removal activities that could result in take of migratory birds or raptors during the nesting season
- Each survey will:
 - Occur one-half hour before sunrise and for up to four hours after sunrise
 - Occur within four hours before sunset and into the evening for a minimum of one-half hour for owls
 - If a nest is located within the survey area, it will be surveyed up to three additional 2-hour surveys to determine whether it is active. This additional time will determine the need to establish an environmental sensitive area.
- Observation routes (or stations) will be placed in the best possible locations to hear or see bird activity
- Surveys will observe breeding behavior and activity of all bird species

5.1.3.2. Monitoring Associated with Power Lines and Infrastructure Placement

Mortality to forest raptors may increase with the placement of power lines along the access route. Birds, especially resident species, unaccustomed to these lines may be impacted by flying into the line or through electrocution. KHL will review existing power line construction configurations recommended including those by the Avian Powerline Interaction Committee (APLIC) (see Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996 and Mitigating Bird Collisions with Power Lines: The State of the Art in 1994, or the most current editions of these documents) or may choose to instead develop their own internal construction standards that meet or exceed these guidelines.

Collision and nesting deterrent methods will be considered during the Project design phase to avoid or minimize impacts of overhead power lines. Prior to construction efforts commencing, KHL will consult with an avian specialist and the requisite stakeholders to discuss the final Project infrastructure with specific emphasis placed on the transmission line corridor. Determinations will be made as to the potential for and level of impact to migratory species. Once determined, KHL will develop a list of specific infrastructure design parameters designed for protecting avian species and distribute to stakeholders for comment and approval prior to finalizing and implementing associated construction efforts. Nesting deterrents may include constructing platforms above power poles to minimize attempts to build nests on power poles if deterrents are unsuccessful. The presence of an older dominant pair may in itself be a deterrent to younger inexperienced breeders that may build multiple nests.

Once constructed, line-transect surveys will be utilized to determine the effectiveness of the mitigation measure utilized to minimize impacts. Surveys will consist of walking the entire length of the power line. Surveys will be conducted four times annually during years 1 and 5 of

operations, to determine seasonality of impacts if any. Prior to surveys, a comprehensive list of bird species potentially in the area will be reviewed.

Surveys will consist of walking transects and identifying dead or injured birds along the route, as well as nests or attempts at nesting. No structures, carcasses or injured birds will be removed or handled unless permitted by USFWS. Information on any structures, dead or injured birds detected during the surveys will include:

- Observer
- Date of Survey
- Survey Start and End times
- Species observed / Photo
- Weather conditions
- Description of dead or injured bird
- Description of structure
- Description of survey location
- Description of vegetative habitat(s)
- Description of the developmental stage of bird observed: adult, juvenile or fledgling

Frequency and timing of power line surveys:

- Surveys will be conducted 4 times a year during years 1 and 5 of operations, once each quarter

5.1.4. Documenting and Reporting

5.1.4.1. *Vegetation Removal*

Pre-construction / maintenance nesting bird survey reporting and nest protection field data will be submitted to USFWS as part of the Annual Compliance Report process (see Section 6) The Project will provide a copy of all field data including: the survey maps, field notes, and observation forms used during preconstruction bird surveys. In areas where nests are determined to be active by the above stated monitoring method, a Nest Protection Plan will be developed in consultation with the USFWS. Nest Protection Plans will be submitted to USFWS for final review and subsequent approval and filed with FERC.

Measures undertaken for active bird nests:

- Coordination with wildlife regulatory agencies, and/or USFWS.
- If a bird is observed nesting within 100 feet (non-raptor) or 1,320 feet (raptor species) of the nearest (or projected) work site, the Biologist will prepare a Nest Protection Plan that will be reviewed by the USFWS for review and approval.
- During the development of the monitoring plan, the nesting area and buffer area will be avoided. An environmentally sensitive area will be implemented immediately for the nesting site. The environmentally sensitive area will include the active nesting site and an additional buffer of 100 feet for non-raptor species, unless otherwise determined by the USFWS that this buffer can be decreased or increased to adequately protect the active nest. The adequacy of buffer widths varies with species discovered and circumstances of the construction area.

- The environmentally sensitive area will not be entered until:
 - USFWS has agreed to the monitoring plan or
 - The Biologist has determined that the juvenile birds have fully fledged and left the area or,
 - The nest has failed and the area has been resurveyed to verify the absence of bird species involved in any process of the breeding cycle.
 - Avoidance and minimization measures may be adjusted only after consultation with USFWS (for all protected species).
 - The Biologist will monitor all environmentally sensitive areas to ensure proper buffer area inclusion.
 - The Biologist will survey the environmentally sensitive areas weekly to ensure the integrity and their effectiveness in keeping people, vehicles, or equipment out of the sensitive area.
 - Indications of significant disturbance to nesting birds that fall within the environmentally sensitive areas may generate further consultation with the USFWS. On a case-by-case basis, the adequacy of buffer widths will be addressed with input from the Biologist. Buffer widths may be adjusted following consultation with the USFWS (for threatened or endangered species).

Prior to construction, all areas will be surveyed and buffers will be in place to protect occupied nests, as required by the Nest Protection Plan. Pre-construction nesting bird surveys will have been completed prior to the initiation of construction and conducted in conjunction with the pre-construction invasive plant delineations outlined in the Grant Lake Vegetation Management Plan (KHL 2015c). Construction compliance reporting will be incorporated into the Annual Compliance Report (see Section 6) and reviewed annually with all stakeholders to document compliance and discuss results.

With respect to this resource area, documentation will include:

- A list of dates during which monitoring activities were conducted.
- Surveyors name(s), survey/monitoring date and time period, and areas surveyed/monitored.
- A summary of construction activity in the survey/monitoring area.
- A summary of all bird avoidance and impact minimization measures implemented at the site(s), if applicable.
- The location and status of observed nests, as well as activities that indicate possible or probable nesting.
- An account of any disturbance or incidental take of threatened/endangered species/species of special concern during construction (take applies to threatened/endangered species only).
- A list of potential compliance issues and the resolution or status of each issue.

5.1.4.2. Power Lines and Infrastructure

Operation compliance reporting will be incorporated into the Annual Compliance Report (see Section 6) and reviewed annually with all stakeholders to document compliance and discuss results.

With respect to this resource area, documentation will include:

- A list of dates during which monitoring activities were conducted.
- Surveyors name(s), survey/monitoring date and time period, and areas surveyed/monitored.
- A summary of activity in the survey/monitoring area.
- A summary of all bird avoidance and impact minimization measures implemented at the site(s), if applicable.
- The location and status of observed nests, as well as activities that indicate possible or probable nesting.
- An account of any disturbance or incidental take of threatened/endangered species/species of special concern during construction (take applies to threatened/endangered species only).
- A list of potential compliance issues and the resolution or status of each issue.

5.2. Mitigating for BGEPA “Take” of Bald Eagles

5.2.1. Plan of Construction and Operation Timeline

Disturbance to bald eagles and/or the removal of their nests are prohibited without a permit. Bald eagle mortality due to inadequately designed power lines is considered a “take” and is a violation of BGEPA. KHL will conduct an aerial nest survey in advance of construction commencement in order to place an appropriate buffer boundary around each nest to limit disturbance. This plan will minimize potential “take” as defined by BGEPA. If an appropriate buffer zone is not possible, KHL will consult with USFWS for the best course of action which may include the submission of an application for permitted take.

5.2.2. Risk Assessment of Activity and Timeline

A risk assessment will be undertaken to determine the impacts of construction and operation (or maintenance) during: bald eagle breeding/nesting season and non-breeding season. An aerial survey prior to construction will provide information on the presence of bald eagle nests. *If nests are detected*, then KHL will adopt the following measures:

- Buffers will be established around identified nests. Distance of buffer boundaries will be determined upon visual range from the construction activities, as presented in Table 2. Once identified, buffer boundary polygons will be provided to construction surveyors and equipment operators for use during vegetation removal and construction.
- If buffers are not practicable, KHL will consult with USFWS for the best course of action. Actions may include the submission of an application for permitted take, 50 CFR 22.26, (Form 3-200-71).

Table 2. Activity buffer distances from bald eagle nest based on visibility.

	If there is no similar activity within 1 mile of the nest	If there is similar activity closer than 1 mile from the nest
If the activity will be visible from the nest	660 feet. Landscape buffers are recommended.	660 feet, or as close as existing tolerated activity of similar scope. Landscape buffers are recommended.
If the activity will not be visible from the nest	330 feet. Clearing, external construction, and landscaping between 330 feet and 660 feet should be done outside breeding season (~March – August).	330 feet, or as close as existing tolerated activity of similar scope. Clearing, external construction and landscaping within 660 feet should be done outside breeding season (~March – August).

5.2.3. Measures Taken Based on Project Actions

Mitigation actions and associated measures are described below for construction and Project operations if nests have been detected during the aerial survey.

5.2.3.1. Nest Detection and Monitoring Associated with Construction

Bald eagles and their nests are protected under BGEPA. Nest structures are very large and detection can be obtained utilizing aerial surveys. Once detected, permitted (if needed), and/or associated buffer boundaries established, protocols have been developed for surveying during construction activities.

Monitoring Method

Detected bald eagle nests will be monitored during the construction phases of the Project. Nests will be monitored three times during the nesting season (incubation, brooding and fledgling consistent with the timing identified in Table 1) to determine the fate of the nest and nestlings. KHL will consult with the USFWS to determine the need for modifications to these nest detection surveys and monitoring after construction is completed. Nest structures will be monitored using binoculars or a spotting scope. The observer will note the condition of the nest and will document signs of activity (e.g., one or both adult birds present, nestling or fledgling observed in the nest or in the nest area, fresh greenery in nest, down on perimeter of nest or in branches adjacent to nest). In addition, behavioral observations that may be used to help determine nest status will be noted (e.g., adult in incubating posture on nest, aggressiveness of adults to observer(s), etc.).

If there is enough information to conclusively determine if a nest is active, the observer will record the necessary information and leave the area as soon as practicable to reduce stress to adults and/or juvenile raptors. The surveyor will not mark the area, nest tree or route to the nest. Moreover, the nest tree will not be climbed to assess number of eggs laid, number of young hatched, number of young depredated, etc.

Nest monitoring will consist of observations at the nest sight and will include:

- Observer
- Survey / nest identification
- Date of survey
- Survey start and end times
- Global positioning system (GPS) location of observation point(s)
- Description of distance and bearing to nest from each GPS point
- Weather conditions
- Description of structure
- Description of survey location
- Presence of adults
- Behaviors Observed
- Description of vegetative habitat(s)
- Description of the developmental stage of bird observed: adult, juvenile or fledgling

Monitoring observations (three surveys / nest) as well as the following will be submitted as part of the corresponding Annual Compliance Report (see Section 6):

1. An ESRI shapefile in the UTM, NAD83, Alaska Zone 4 geographic coordinate system that depicts nest locations, GPS tracks for routes walked during surveys, Project features (e.g., roads, power lines, etc.), if available.
2. If requested by USFWS, the surveyor(s) will provide general characterization of the nest stand, and information will be collected within a 1.9 acre circular area with radius of 50 m that extends out from the base of the nest tree. The following components of the nest stand will be described:
 - Tree composition (i.e., a brief description of the dominant tree species present in the nest stand)
 - Stand age (e.g., young, mature, or old-growth)
 - Presence and abundance of large woody debris
 - Canopy cover and height (i.e., percent canopy cover within the nest stand, and mean height of all trees within the nest stand)
 - Vegetative ground cover (i.e., percent shrub and herbaceous cover)
 - Areal extent and continuity of the nest stand
 - Slope position (e.g., upper third, middle third, lower third) and topographic character (e.g., “nest tree is located on middle third of slope on mid-slope bench”), if applicable.
 - Percent slope at the nest tree
 - Slope aspect (in degrees) at the nest tree
 - Elevation (in feet) at nest tree
 - Nest tree species
 - Nest tree diameter at breast height (DBH; in inches)
 - Nest tree height (in feet)
 - Nest height (in feet)
 - Shortest distance to the edge of the woodland stand or clearing and the nest tree

3. Distances from existing and proposed anthropogenic and natural features (e.g., roads and trails, power line/fence-line corridors, rail line, etc.) pertinent to impact assessment will be recorded. If appropriate, the observer will describe intervening terrain or vegetation features that may modify aural or visual detection from the nest.
4. The observer will take pictures of the nest and nest area. The observer will take: 1) one close-up photo of his or her GPS with UTM coordinates clearly displayed; 2) one photo of the nest tree with the nest in the frame; 3) one zoomed-in image of the nest; and 4) one representative photo of the nest stand.
5. Collection of production data or nest phenology information is not required. The survey objective is to locate active and inactive nest structures, and determine nest occupancy status (e.g., active, inactive, or unknown status) using descriptive, noninvasive methods as described under “DETERMINING ACTIVITY STATUS OF NESTS”, while minimizing the duration and intensity of disturbance to adult, nestling, or fledgling raptors. As noted above, climbing the nest tree, taking pictures of nest contents, or marking of nest trees, nest stand, or route to the nest is not authorized for purposes of these surveys, and may be punishable under BGEPA.

5.2.3.2. Project Operation

Upon completion of construction, KHL will comply with the established HEA Management Directive 503 for Wildlife Protection (Appendix 1) to maintain an ongoing dialogue with the USFWS in the reporting of any injured or dead wildlife and any additional mitigation work completed. The HEA Management Directive 503 for Wildlife Protection along with the USFWS Bird Fatality/Injury Reporting Program, Field Report and USFWS Injured Bird Protocol (2011) are attached as Appendix 1. HEA is currently in the process of updating the management directive.

Prior to large scale vegetation removal associated with maintenance, KHL will evaluate the activity and consult with the USFWS with respect to permitted take if necessary.

5.2.4. Documenting and Reporting

A final report on activities and nest fate will be provided to the USFWS at the completion of the construction phase of the Project.

6 COORDINATION AND REPORTING

Provisions in this APP will be formally adopted and implemented by KHL upon FERC approval of the APP and after issuance of the FERC license. Requisite stakeholders will be consulted well in advance of construction efforts being implemented to assure a comprehensive and collaborative planning effort for those measures (described above) associated with construction.

All APP activities in a given year will be documented as part of an annual compliance reporting/meeting process. Every winter, KHL will convene a global meeting with all

stakeholders and FERC to review all management plans and related monitoring efforts associated with construction and subsequent operation of the Project. It is during these annual proceedings when results will be documented, identified issues will be discussed and modifications to plans and/or additional measures will be adopted to ensure that minimal impact to the natural environment is occurring as a result of Project construction and operations. With respect to the APP, primary topics discussed during the annual compliance reporting/meeting process will include:

- A summary of the actions that KHL implemented during the previous calendar year.
 - Migratory species
 - Bald eagles
- A discussion of any substantial differences between the actions provided in the APP (and subsequent agreements) and the actions that KHL implemented, including explanations for any substantial differences.
- Results of any surveying that occurred during the previous calendar year, conclusions that KHL draws from the monitoring results, and any change to the APP that KHL proposes based on the monitoring results.
- Stakeholder input with respect to any necessary modifications to the existing APP.

Ultimately, the draft Annual Compliance Report will be revised to incorporate stakeholder comments and update modified plans for the following year's natural resource implementation and compliance efforts. The Annual Compliance Report will be filed with FERC by April 1 of each year and copies will be made available to the stakeholders and FERC via the internet.

Additionally, all monitoring efforts during construction activities will be managed by KHL's on-site Environmental Compliance Monitor (ECM). This person will be responsible for assuring that all procedural aspects of the natural resource and construction management plans as well as general BMP for construction efforts are being adhered to. This person will be the lead in confirming that all methods and associated data collection activities are occurring as scheduled and all associated data is being entered and reported on appropriately. The ECM will be the primary, on-site contact for both confirmation of appropriate activities with respect to monitoring during construction and the conduit for communicating any issues that may be occurring to insure timely resolution.

7 REFERENCES

APLIC (Avian Power Line Interaction Committee). 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Edison Electric Institute and APLIC. Washington, D.C.

FERC and USFWS. 2011. Memorandum of understanding between the Federal Energy Regulatory Commission and the U.S. Department of the Interior United States Fish and Wildlife Service regarding implementation of Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds."

- KHL (Kenai Hydro LLC). 2014. Grant Lake Hydroelectric Project (FERC No. 13212). Terrestrial Resources, Final Report. Prepared by McMillen LLC for Kenai Hydro, LLC. June 2014.
- KHL. 2015a. 2014 Wildlife Resources Study Addendum, Terrestrial Resources Study Report. Prepared by ERM, Inc for Kenai Hydro, LLC. March 2015.
- KHL. 2015b. Grant Lake Hydroelectric Project (FERC No. 13212), Draft License Application. March 2015.
- KHL. 2015c. Grant Lake Hydroelectric Project (FERC No. 13212), Draft Vegetation Management Plan. May 2015.
- USFWS (U.S. Fish and Wildlife Service). 2005. Recommended Time Periods for Avoiding Vegetation Clearing in Alaska in order to Protect Migratory Birds. Advisory. 2p.
- USFWS. 2007. National Bald Eagle Management Guidelines. 25p.Ebasco (Ebasco Services, Inc.). 1984. Grant Lake Hydroelectric Project Detailed Feasibility Analysis. Volume 2. Environmental Report. Rep. from Ebasco Services Incorporated, Bellevue, Washington.

Appendix 1: HEA's Management Directive for Wildlife Protection

WILDLIFE PROTECTION

Purpose: To establish reporting and tracking procedures for the discovery of injured or dead wildlife and completion of mitigation work.

1. The Engineering department will maintain an ongoing dialogue with the United States Fish and Wildlife Service (USF&W) on the HEA wildlife mitigation program. The Manager of Engineering Services will telephone the USF&W as necessary for prompt reporting, but not less than a minimum of once per month to review HEA mitigation efforts and the past month's activity.
2. If injured or dead wildlife is discovered at or under our electric system, the following procedure will be followed:
 - A. The employee making the discovery will immediately report to the Engineering Department. The designee will promptly make a telephone report to the USF&W.
 - B. The employee making the discovery will complete the "Wildlife Injury/Mortality Report Form" and submit it to the Engineering Department designee the same day.
 - C. The Engineering Department will fax the report to the USF&W the same day.
 - D. Within four (4) days of notification of wildlife injury or death, the Engineering Department will design/recommend mitigation action to prevent a future occurrence.
 - E. The Engineering Department will fax a mitigation report to the USF&W within five (5) days on wildlife discovery. The report will include a description of the work order/action being taken to mitigate further incidents and the time line for completion of the work or action. If USF&W has not participated in mitigation planning, their agreement with planned action will be solicited.
 - F. The Operations Department will complete planned mitigation work within five (5) working days.
3. The Engineering Department will maintain a Wildlife Protection working file centrally located within the department. The file shall include:
 - A. Log and description of all telephone notifications of wildlife injury/death.
 - B. Supply of Wildlife Injury/Mortality Report forms.
 - C. Original copies of all completed wildlife injury/mortality report forms and fax confirmations.
 - D. Log of all HEA contacts to the USF&W. The log will list the time, date, person making the call, person contacted and description of discussion.
 - E. Log of all calls from the USF&W. The log will list the time, date, person receiving the call, and description of discussion.
 - F. A copy of all completed mitigation and fax confirmation reports, work orders and service orders.

4. The Engineering Department will complete and forward a bi-weekly report to the General Manager summarizing injury/mortality reports received, mitigation efforts and contacts to/from USF&W.

RESPONSIBILITY:

The Manager of Engineering Services is responsible for administration of this directive.

8-12-02
Effective Date

N. L. Story
N. L. Story, General Manager

Copies: All Librarians and employees



INJURED BIRD PROTOCOL 2011 - WHO TO CONTACT



WHEN RESPONDING TO AN INJURED BIRD CALL - PLEASE REMEMBER TO ALWAYS WRITE DOWN:

- 1) The caller's name
- 2) Phone number
- 3) LOCATION OF BIRD --remember, if it is South of Deep Creek, the Alaska Maritime NWR will respond
- 4) Date and time of the call
- 5) TYPE OF BIRD AND INJURY

DURING REFUGE OFFICE HOURS:

FOR INJURED BIRDS LOCATED NORTH OF DEEP CREEK

--The Kenai NWR or Marianne Clark (local licensed bird rehabilitator) will respond

FOR ALL INJURED BIRDS, RAPTORS, SONGBIRDS, GULLS, DUCKS, and RAVENS

Refer the caller to Marianne Clark 262-3969 or cell phone 398-3979,

If no answer, refer caller to:

Plan A - Forward the call to one of the biology staff (Toby or Todd)

Plan B - Contact Chris Johnson in Law Enforcement (cell) 252-9840



AFTER OFFICE HOURS:

Marianne Clark 398-3979 (cell)

Toby Burke 398-9522 (cell)

Todd Eskelin 398-9553 (cell)

FOR INJURED BIRD OR RAPTOR LOCATED SOUTH of DEEP CREEK

-- Call the Alaska Maritime NWR:

During office hours AND after office hours contact list:

Arthur Kettle 235-6546 (AK Maritime NWR) or 235-5118 (home)

Leslie Slater 235-6546 (AK Maritime NWR) or 235-1279 (home)

Dave Roseneau 235-6546 (AK Maritime NWR) or 235-0713 (home)

SEABIRDS and MARINE WILDLIFE in Homer:

Charlotte Adamson 235-2725

Marine Wildlife Rescue Team (also Charlotte Adamson) 235-2700



FOR INJURED BIRDS IN COOPER LANDING or SEWARD

-- Refer callers to the Alaska Sealife Center's 24 hour Hotline (in Seward) 1-888-774-7325

FOR INJURED BIRDS in ANCHORAGE:

-- Refer callers to the Bird Treatment and Learning Center (in Anchorage) at 1-800-562-4852

What about other animals?

INJURED MAMMALS - Refer callers to the Soldotna ALASKA DEPT of FISH & GAME (262-9368), or Fish and Wildlife Protection / Troopers (262-4573)

INJURED OR STRANDED MARINE MAMMALS (whales, seals, sea lions) and SEA BIRDS - Refer callers to the Alaska Sealife Center's 24 hour Stranding Hotline (in Seward) 1-888-774-SEAL (7325)



U.S. Fish and Wildlife Service
Bird Fatality/Injury Reporting Program
Field Report

Point of Contact Information

Name of Individual Filing Report:	Name of Company/Organization:
-----------------------------------	-------------------------------

Fatality/Injury Details

Date Bird was Discovered (mm/dd/yyyy):
Type of Bird (e.g., bald eagle, red-tail hawk, etc.):
Condition of Bird (circle one): Alive / Dead:
If alive, actions taken:
Describe any visible injuries to the bird:
Disposition of the bird (circle one): Recovered / Not Recovered
If recovered, circle one of the following: Disposed of Rehabilitation Center Transferred-to/Picked-up-By USFWS Veterinarian
Enter disposition details (i.e., how disposed of, name of rehab. Center, name of FWS employee, name of vet.):
Apparent cause of fatality/injury (circle all that apply): Electrocution Probable Electrocution Collision Probable Collision Other (explain...)
Was this incident associated with an outage (circle one)? Yes / No / Unknown If "Yes", approximate time of outage: Outage ID (if applicable):

Location Where Bird Was Found

State:
Town or Community:
Circuit Number: Circuit Name: Op. Area ID:
Pole Number (if applicable):
GPS Coordinates (if applicable):
Nearest road or landmark (please be as specific as possible, e.g., milepost number nearest crossroad):

**U.S. Fish and Wildlife Service
Bird Fatality/Injury Reporting Program
Field Report - Continued**

Configuration Details

Enter the name of the configuration type that most closely matches the one involved in this incident (e.g., <i>Single-phase Crossarm (RUS A9-1)</i> , substation, etc.):
If you entered "Substation", identify all applicable equipment:
Is this a transmission line (circle one): Yes / No
If you answered "Yes" to transmission line, please answer the following questions: Is there an underbuild on the pole (circle one): Yes / No Is there an overhead static line (circle one): Yes / No Are there any existing markers on the conductors (i.e., Bird Flight Diverters): Yes / No Are there any flapper devices on the conductors (i.e., "Fireflies"): Yes / No What is the voltage, in kV:
If this incident was related to an electrocution, or possible electrocution, enter <u>all</u> applicable equipment on the pole (e.g., arrestors, capacitors, switches, etc.):
Enter the voltage, in kV:
Did ground wire, or neutral, contribute to the electrocution (circle one)? Yes / No
If there was a cross-arm, what was the length?:
If pole or equipment on pole is suspected cause, where was bird found in relation to pole or equipment?:

Environmental Conditions

Surrounding Environment (circle all that apply): Forrest Grassland/Tundra Rural Wetland Urban	Food sources nearby (circle all that apply): Cannery Dumpster Landfill Fish processing plant/fish cleaning station Person feeding Prey Restaurant/Cafe Salmon Stream Other food source - <i>please specify</i> :
Weather Conditions (circle all that apply, if known): Clear Fog Wind Snowing Raining Other - <i>please explain</i> :	Details about nesting information (i.e., is there a nest on the structure or in the area?):
Approximate time of Day (circle, if known): Day / Night	Details about nesting information (i.e., is there a nest on the structure or in the area?):

U.S. Fish and Wildlife Service
Bird Fatality/Injury Reporting Program
Field Report - Continued

Existing Protection / Retrofit Measures

Existing raptor protection on the structure (select yes/no): Yes / No

Please mark all existing raptor protection devices that apply:

- ☐ Bird Deterrent Device (other than perch guard) *please describe:*
- ☐ Bird Flapper device (ie. "Firefly")
- ☐ Bird or Swan Flight Diverter (BFD or SFD)
- ☐ Bushing Cover(s)
- ☐ Conductor Spacing increased (other than above) *please describe:*
- ☐ Elevated Perch
- ☐ Extension Link (non-Conducting)
- ☐ Groundwire Cover/Insulation
- ☐ Jumper Wire Cover/Insulation
- ☐ Jumper Wire(s) Suspended under Crossarm
- ☐ Lowered Crossarm
- ☐ Perch Guard(s) (to discourage birds from perching)
- ☐ Pole-top Extension
- ☐ Primary Insulator Cover (ie. "Birdguard")
- ☐ Other Raptor Protection *if "other", please specify:*

Additional Information / Photographs

Please include any additional observations/remarks regarding this fatality/injury:

Did you take any photographs (circle one)? Yes / No

If so, how many:

Please include all photographs with your submittal

Types of Pole Configurations

Single Phase – Crossarm (RUS A9-1)
Single Phase – No Crossarm (RUS A-1)
Substation
Three Phase Corner Pole – (RUS 2 C7's at 90 degree angles)
Three Phase Deadend (RUS C7)
Three Phase Double Deadend (RUS C8)
Three Phase Tangent (RUS C1 Config)
Three Phase Tangent (RUS C9-1 with all four wires on crossarm)
Three Phase Tangent (RUS C9-1 with neutral down on pole)
Three Phase Horizontal Insulators
Three Phase Underbuild
Three Phase Wishbone
Two Phase Tangent (RUS B1)
Other/None/Not Applicable: _____

Equipment on Pole

Arrestor(s)
Capacitor(s)
Cutout(s)
Exposed Energized Jumper Wires
Ground Guy Wire(s)
Grounded Metal Bracket(s)
Pole Top Ground
Primary Metering
Recloser(s)/Sectionalizer(s)
Regulator(s)
Switch(s)
Transformer (only 1)
Transformer Bank (only 1)
URD Riser

Voltage in kV: _____

Did Ground Wire or Neutral contribute to Electrocuting: _____

Was neutral involved: _____

If there was a cross arm, what length: _____

DRAFT BIOLOGICAL EVALUATION FOR PLANTS

Grant Lake Hydroelectric Project
FERC No. 13212

Seward Ranger District
Chugach National Forest

May 2015

SIGNATURES

Prepared by: Kathryn Beck, Botanist
Beck Botanical Services

Date: _____

Reviewed by: _____

Date: _____

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- Appendix B: Survey Types.
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DRAFT BIOLOGICAL EVALUATION FOR PLANTS Grant Lake Hydroelectric Project FERC No. 13212

Seward Ranger District
Chugach National Forest

INTRODUCTION

The United States Forest Service (USFS) policy requires that a review of programs and activities, through an effects analysis, be conducted to determine their potential effect on threatened and endangered species, species proposed for listing and Regional Forester designated sensitive species. The purpose of this document is to present the analysis and determination of effects of the alternatives on federally listed species (endangered, threatened, and proposed) and USFS sensitive species (FSM 2670.31-2670.32).

For threatened and endangered species and species proposed for listing, the analysis and document are referred to as a Biological Assessment, or BA. No plants federally listed or proposed by the U.S. Fish and Wildlife Service are known or suspected to occur in the Alaska Region, therefore there will be no further discussion of federally listed or proposed plants in this document.

For sensitive species the analysis and document are referred to as a Biological Evaluation or BE (FSM 2670.3). Preparation of a BE as part of the National Environmental Policy Act (NEPA) process ensures that sensitive species receive full consideration in the decision-making process.

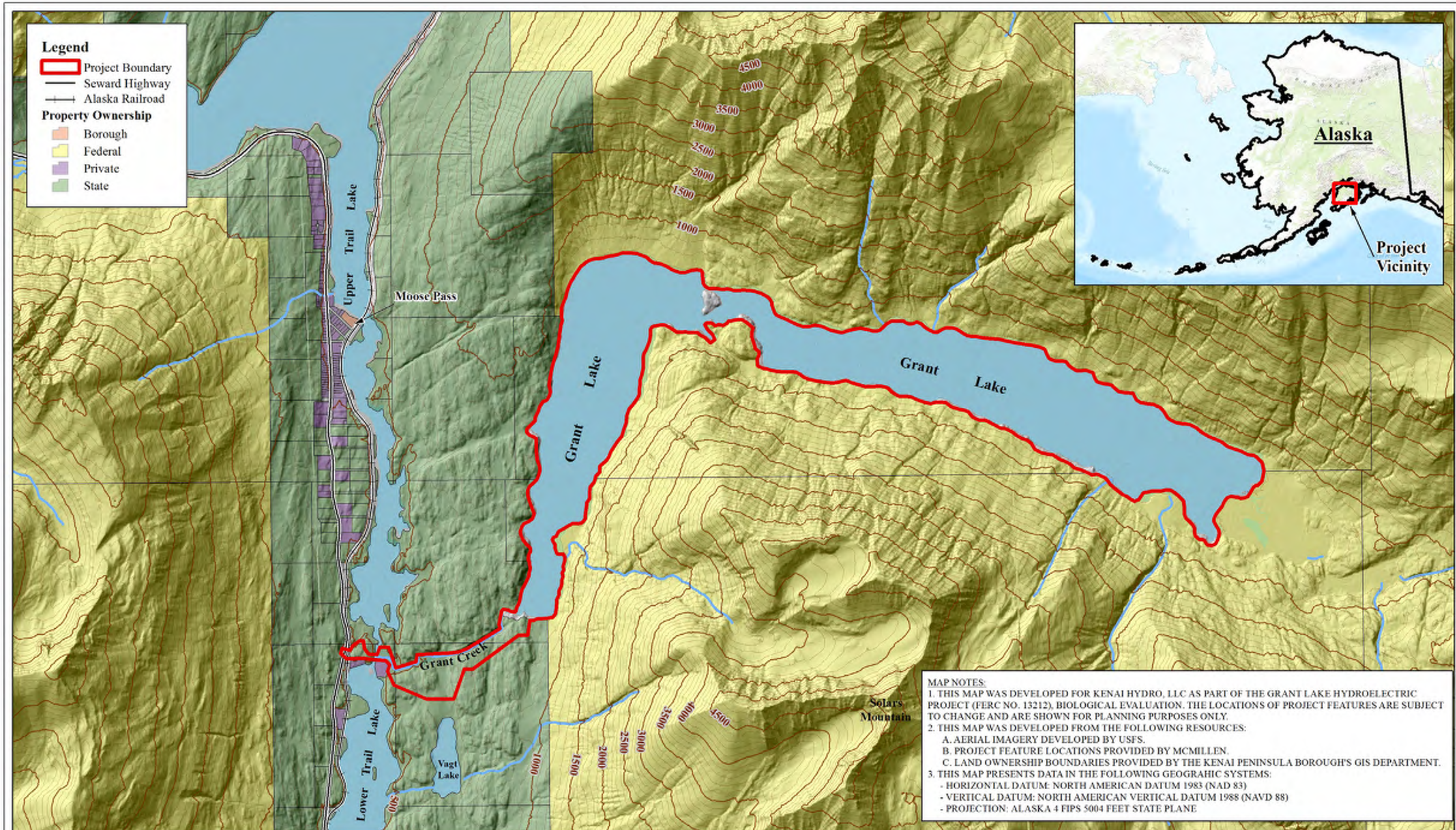
PROJECT DESCRIPTION

The proposed Project consists of constructing a new 5-megawatt (MW) hydroelectric facility on Grant Lake and Grant Creek near Moose Pass, Alaska (Figure 1)¹. The Project would be located just east of the Seward Highway, near the community of Moose Lake, Alaska approximately 25 miles north of Seward, Alaska. The Alaska Railroad (ARRC) parallels the route of the Seward Highway, and is also adjacent to the Project area. The Project would divert water from Grant Lake and deliver the flow to a powerhouse located near the outlet of the existing Grant Creek natural, incised rock canyon. It would be owned and operated Kenai Hydro, LLC (KHL).

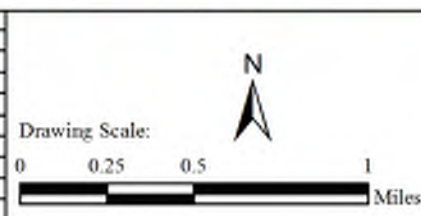
¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in some of the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015a). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

All Project infrastructure, including those situated at the natural lake outlet, would be located on Alaska Department of Natural Resources (ADNR) lands and would include the following major components:

- An intake structure in Grant Lake.
- A tunnel extending from the lake intake to just east of the powerhouse.
- A powerhouse with two Francis turbines providing an anticipated combined 5-MW output. The maximum design flow will be approximately 385 cubic feet per second (cfs).
- Tailrace detention pond.
- Switchyard with disconnect switch and step-up transformer.
- An overhead transmission line.
- A pole mounted disconnect switch where the transmission line intersects the main power distribution line.



REV	DATE	BY	DESCRIPTION



MCMILLEN, LLC

THE SONNA BUILDING
912 MAIN ST. SUITE 200
KENAI, AK 99542

OFFICE: 208.342.4314
FAX: 208.342.4316

Developed For:



GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

BIOLOGICAL EVALUATION

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

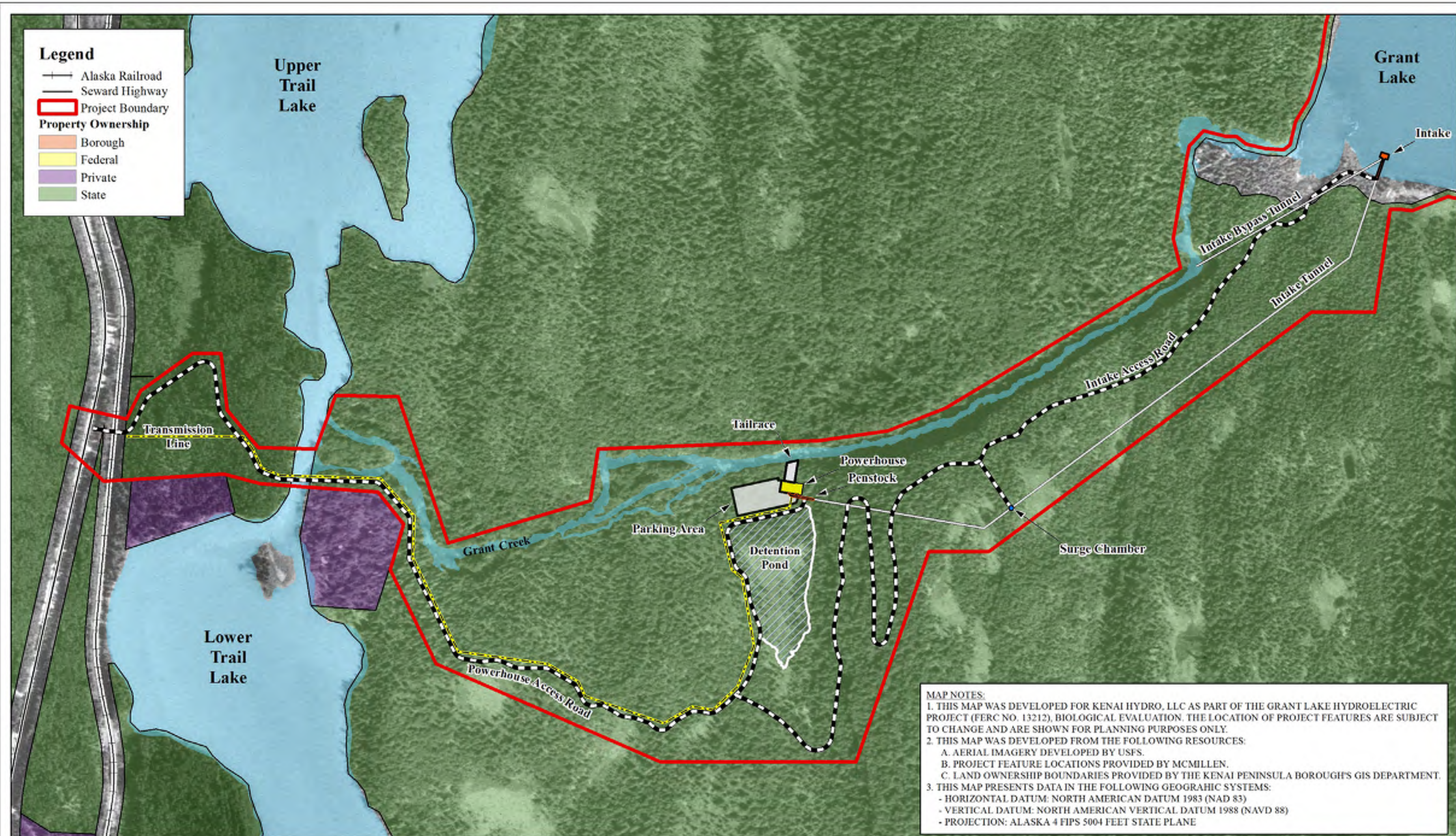
DRAWN: Jake Woodbury

CHECKED: C. Wainock

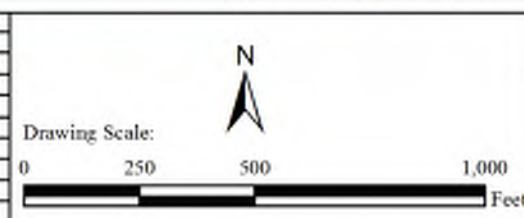
ISSUED DATE: 4/29/2015

DRAWING

SCALE: 1:35,000



REV	DATE	BY	DESCRIPTION



MCMILLEN, LLC

THE SONNA BUILDING
912 MAIN ST. SUITE 250
KENAI, AK 99542

OFFICE: 208.342.4314
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Developed For:

Homer Electric Association, Inc.

A "Toothsome Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

BIOLOGICAL EVALUATION

Figure 2
General Project Features And Facilities

DESIGNED: Mike Woodbury

DRAWN: Mike Woodbury

CHECKED: C. Wainock

ISSUED DATE: 4/29/2015

SCALE: 1:5,000

Grant Creek Diversion

The proposed Project consists of a reinforced concrete intake structure located on the south side of the natural lake outlet. No structural modifications would be made to the existing lake natural outlet. The Project will divert water up to a maximum of 385 cfs into the intake structure. When the lake level exceeds the natural outlet of 703 feet North American Vertical Datum of 1988 (NAVD 88), a maximum of 385 cfs will be diverted into the intake structure and routed to the powerhouse. Flow in excess of 385 cfs would pass over the natural outlet to Grant Creek.

Grant Lake Intake

The Project water intake would be a concrete structure located approximately 500 feet east of the natural outlet of Grant Lake and adjacent to the shore. The intake structure consists of a reinforced concrete structure extending from approximately elevation 675 NAVD 88 feet up to a top deck elevation of 703 feet NAVD 88. The structure has an internal dimension of 38 feet by 15 feet. The structure includes intake trashracks, a selective withdrawal intake gates with wire rope hoist, and a roller gate located on the water conveyance intake. The intake is divided into three bays, each fitted with an intake gate to provide flexibility for delivering the full flow range of 58 cfs to 385 cfs. The gate position within the water column will be set to deliver the required water temperature to Grant Creek below the powerhouse. The roller gate would be 11 feet tall by 11 feet wide and fitted with a wire rope hoist lift mechanism. Electrical power will be extended from the powerhouse to the intake to operate the intake and isolation gates. Pressure transducers will be installed to monitor the water level at the lake as well as within the intake tower. An access bridge 16 feet wide would be installed from the lake shore out to the intake structure.

The intake would allow for drawdown of Grant Lake to elevation 690 feet NAVD 88 thereby creating approximately 18,790 acre-feet of active storage for the Project between elevations 703 feet NAVD 88 and 690 feet NAVD 88. The intake can be designed to allow the Project to draw water near the surface at various levels of storage, if deemed necessary. The invert of the intake would be at elevation 675 feet NAVD 88 to provide for adequate submergence to the tunnel.

A bypass pipe would extend from the intake structure to the base of the existing water fall in Grant Creek. The installed pipe would be 900 feet long and approximately 18 inches in diameter allowing the minimum flow ranging from 5 to 10 cfs to be released. A control gate would be located within the intake structure to regulate and monitor the bypass flow releases.

Tunnel and Surge Chamber

The intake structure would connect to a tunnel extending to the Project powerhouse. The tunnel would be approximately 3,300 feet long with a 10-foot-horseshoe shape. Drill and shoot techniques would be used to construct the tunnel using an entrance portal at the powerhouse for access. The lower 900 feet of tunnel would be constructed at a 15 percent slope. This section of the tunnel will be concrete lined. The upper 2,400 feet of tunnel would be constructed at a 1 percent slope and would be unlined. This proposed arrangement provides a low pressure hydraulic conduit in the upper tunnel reaches suitable for an unlined tunnel. A surge chamber is located at the transition between the two tunnel slopes. This chamber is approximately 10 feet in

diameter and would extend from the tunnel invert elevation of 650 feet NAVD 88 to the ground surface at approximately elevation 790 feet NAVD 88. The surge chamber provides a non-mechanical relief for hydraulic transients that could occur if a load rejection occurs at the powerhouse. Rock anchors and shotcrete stabilization techniques would be used to stabilize the tunnel where required. A rock trap would be located at the surge chamber location to collect dislodged rocks from the unlined tunnel section.

The tunnel would transition to a 6-foot diameter steel penstock approximately 150 feet from the powerhouse. The transition section would consist of a welded steel concentric structure which transitions from the 10-foot tunnel section to the 72-inch diameter penstock. A steel liner would extend from the downstream tunnel portal approximately 300 feet into the tunnel. The liner would be installed within the exposed rock surface with grout pumped behind the liner to provide an impermeable and structurally sound tunnel section. A similar steel tunnel liner section would be installed at the connection to the intake structure for a total distance of approximately 150 feet.

Penstock and Surge Tank

A 72-inch diameter steel penstock extends 150 feet from the downstream tunnel portal to the powerhouse. The welded steel penstock would be supported on concrete pipe saddles along the penstock route. The penstock would bifurcate into two 48 inch diameter pipes feeding each of the powerhouse turbines. The penstock fitted with welded steel thrust rings would be encased in concrete thrust blocks at the tunnel portal as well as the powerhouse. These thrust blocks would be designed to resist the full hydraulic load associated with the Project operation. An interior and exterior coating system would be applied to the penstock providing full corrosion protection. An access manway would be provided on the exposed penstock section allowing access for future inspection and maintenance.

Tailrace

The powerhouse draft tubes would connect to a tailrace channel located on the north side of the powerhouse structure. The draft tubes would extend from a low point elevation of approximately 509 feet NAVD 88 up to the tailrace channel invert elevation of 515 feet NAVD 88. The channel would continue to the east bank of Grant Creek. Each of the draft tubes will be gated allowing the flow to be routed to the detention pond for spinning reserve. Isolation bulkheads would be provided allowing dewatering of the draft tubes for inspection and maintenance of the turbine. The tailrace channel would be trapezoidal in shape with a bottom width of 43 feet, side slopes of 2H:1V and a channel depth ranging from 13 feet at the powerhouse to 7 feet at the creek. A concrete structure would be constructed at the confluence of the channel and Grant Creek. A picket-style fish barrier would be placed on this concrete structure as well as provision for installation of stoplogs allowing the tailrace channel to be dewatered for inspection and maintenance. The channel would be excavated from native material and lined with riprap to provide a long term stable section. A staff gage and pressure transducer will be placed in the channel to monitor the water level in the channel.

Tailrace Detention Pond

An off-stream detention pond would be created to provide a storage reservoir for flows generated during the rare instance when the units being used for emergency spinning reserve are needed to provide full load into the electrical transmission grid. In this situation, the additional powerhouse flows would be diverted into the detention pond and then released slowly back into Grant Creek. It is anticipated that the discharge associated with a spinning reserve event would be dispersed via the tailrace channel which flows into Grant Creek. The detention pond would be located immediately south of the powerhouse and would have a capacity of approximately 15 acre-feet and a surface area of approximately 5 acres.

Powerhouse

The powerhouse would be located on the south bank of Grant Creek immediately west of the downstream tunnel portal and adjacent to the detention pond. The powerhouse would consist of a concrete foundation and a pre-engineered metal building superstructure. The building would be approximately 100 feet long (east to west) and 50 feet wide (north to south). The penstock would tie into the powerhouse on the south side and the tailrace channel on the north side of the building. The building floor would be set at approximately elevation 523 feet NAVD 88 and the centerline of the turbine runner at elevation 526 feet NAVD 88. The draft tube floor would be set at elevation 509 feet NAVD 88 with an operating tailwater inside the draft tubes ranging from 518.0 feet to 519.3 feet NAVD 88.

Two horizontal Francis type turbine/generator units with a rated total capacity of 5,000 kilowatt (kW) would be housed in the powerhouse structure. The powerhouse flow would range from a maximum of 385 cfs to a minimum of 58 cfs with each turbine operating flow ranging from 192.5 cfs to 58 cfs. Associated mechanical and electrical equipment would include hydraulic power units, turbine isolation valves, penstock drain, utility water system, lube oil system, oil water separator, battery system, and heating, ventilating, and air conditioning (HVAC) system. A control room housing the motor control center, communication rack, fiber optic panels, computers, and related equipment would also be provided. The Project switchgear would be located within the powerhouse. A standby generator, transformer, and fused pad mounted switch assembly would be mounted on an enclosed switchyard located on the south side of the powerhouse. Dewatering pumps would be provided to support dewatering of the turbine draft tubes. A 30-ton bridge crane would be provided for equipment maintenance. The crane would travel on rails mounted on the steel building support columns. An energy dissipation valve would extend off the penstock and provide bypass flows into the Project tailrace.

Transmission Line/Switchyard

An overhead 115-kilovolt (kV) transmission line will extend from the powerhouse to the existing 115-kV transmission line located on the east side of the Seward Highway. In addition to any overhead transmission structures, the facilities would include a switchyard at the powerhouse consisting of a 115-kV fused pad-mounted disconnect switch and a pad-mounted 115-kV GSU transformer. The transmission line would run from the powerhouse parallel to the access road where it would intersect Chugach Electric's transmission line. The interconnection would have a pole mounted disconnect switch.

Wooden poles would be designed as tangent line structures on about 250-foot centers. Design of the line would also incorporate the latest raptor protection guidelines. Collision avoidance devices would be installed on the line at appropriate locations to protect migratory birds.

Appurtenant Facilities

The following pertinent mechanical and electrical equipment will be applicable to the Project:

- Intake selective withdrawal intake gate
- Intake trashrack system
- Intake roller gate used to isolate the tunnel and downstream generation facilities
- Control gate located on the bypass pipeline pipe
- A 30-ton bridge crane in the powerhouse
- Pumps located in the powerhouse used to dewater the draft tubes
- Pressure transducers located throughout the Project used to monitor the water level in the reservoir, tunnel and tailrace, as well as pressures in the tunnel and penstock
- Security cameras at the intake and powerhouse
- Sanitary waste holding tank at the powerhouse
- A power line extending from the powerhouse to the intake to supply electrical power to the gates and trashrack
- Temperature instrumentation at the intake structure and at various stream locations to monitor water temperature

This equipment along with other identified miscellaneous mechanical and electrical equipment will be developed during the final design and included in the construction documents.

Access Roads

The Project would require an access road to both the powerhouse located near the base of the Grant Creek canyon and to the intake at Grant Lake. The access road would be used to construct the Project and afterwards, to maintain the facilities. It is anticipated that the powerhouse would be visited approximately once a week and the intake visited approximately once a month beginning just after the ice melts and continuing until just before freeze up. The powerhouse access road would be maintained year around. The intake access road would not be maintained in winter.

The 24-foot wide access road would tie into the Seward Highway at approximately MP 26.9. The route would travel eastward to cross Trail Lakes at the downstream end of the narrows between Upper and Lower Trail lakes and then continue eastward to the powerhouse. This route would be approximately one mile long. It would cross the ARRC tracks near an existing railroad crossing for a private driveway. The road would cross the narrow channel connecting Upper and Lower Trail lakes with an approximately a 110-foot-long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The proposed route would avoid cuts and travel along the base of some small hills on the south side of Grant Creek to the powerhouse. This proposed access road would have one 90-degree

crossing of the Iditarod National Historic Trail (INHT).

The intake access road would be approximately one mile long, beginning at the powerhouse. The road would ascend a 230-foot bluff to get to the top of the southern lip of the Grant Creek canyon. A series of road switchbacks would be required to maintain a road grade of less than 8 percent. The road would then generally follow the southern edge of the canyon until it descends to Grant Lake. A small parking area and turn-a-round area would be provided at the intake structure. A 16 foot wide bridge will extend from the bank out to the intake structure.

The road would be gravel with a 16-foot top width. Maximum grade would be 8 percent. Periodic turnouts would be provided to allow construction traffic to pass. Fifty-foot radius curves would be used to more closely contour around the small steep hills of bedrock to limit the extent of the excavation and the height of the embankments.

Project Operations

Once constructed, the Project will operate to generate power throughout the calendar year based on inflow, available storage, lake elevation, and minimum flow requirements with Grant Creek. The lake will operate from the natural Grant Lake outlet elevation of 703 feet NAVD 88 down to a minimum lake elevation of 690 feet NAVD 88. The lake will be drawn down in the winter months utilizing a combination of Grant Creek inflows and stored water to meet the instream flows in the bypass reach (Reach 5) while also maintaining power production. Water flow predictions will be used to estimate snowpack and the corresponding runoff volume (Figure 3). The Project operation will then be tailored to maximize winter power production while also ensuring the lake refills to elevation 703 feet NAVD 88.

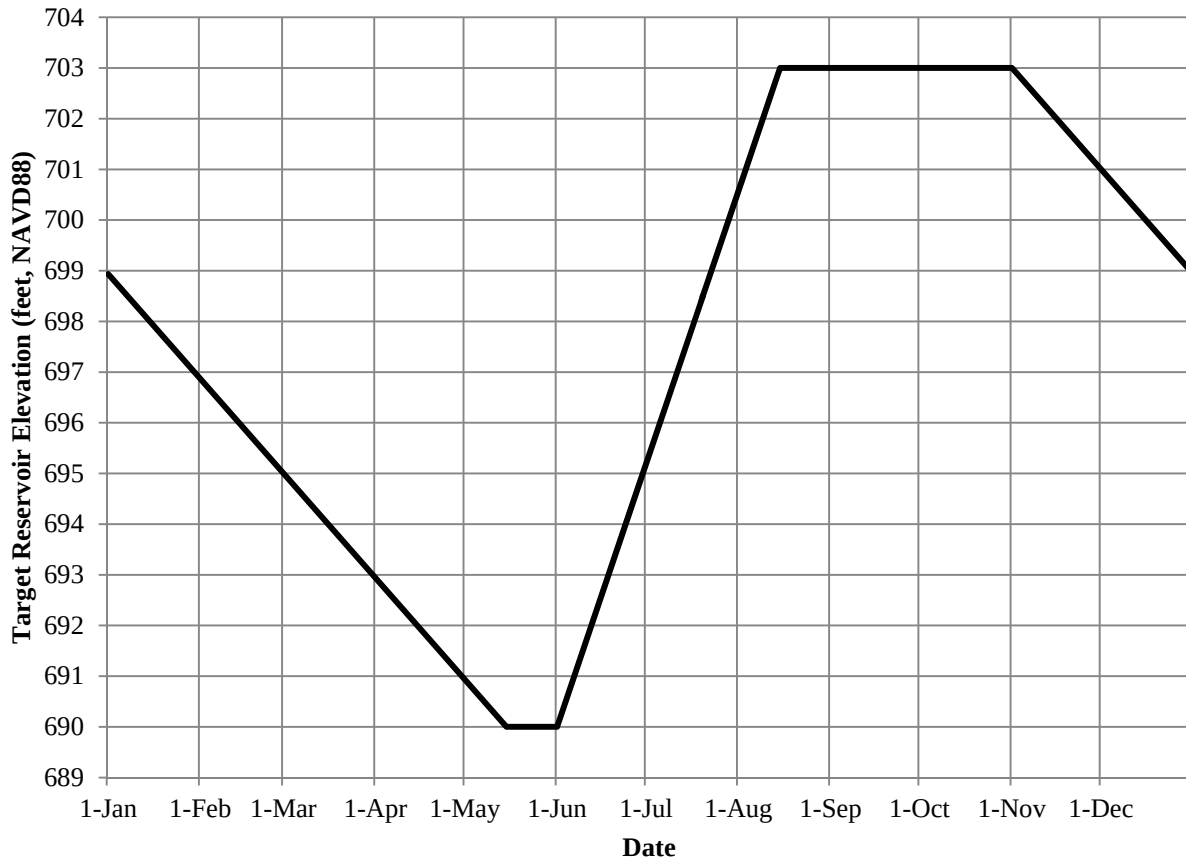


Figure 3. Grant Lake rule curve.

Schedule for Project Construction and Operation

Construction of the Project will commence after the final issuance of a license from FERC, currently anticipated to occur in December 2016. The pre-construction activities such as equipment procurement and shop drawing preparation will begin at that time. Mobilization for field construction activities will begin in April 2018. Construction work for the Project will continue for 18 months followed by a two month startup and commissioning period. Commercial operation of the Project would begin in January 2020.

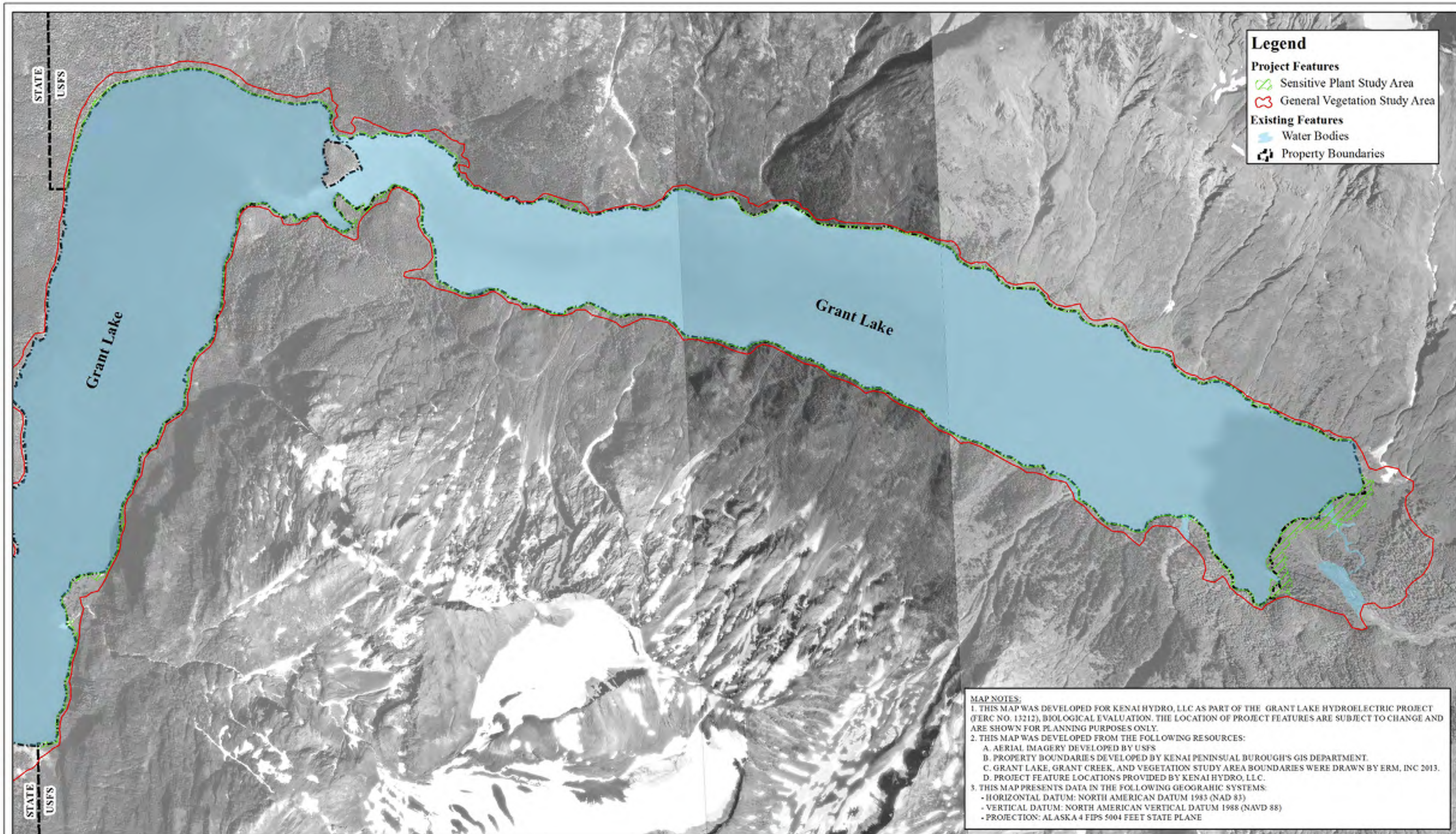
PROJECT AREA

The Project area extends from east of the Seward Highway and ARRC adjacent to Moose Pass, to just past the eastern shoreline of Grant Lake. From south to north, the Project area extends south along the highway to just south of Grant Creek and north to just beyond the north shoreline of Grant Lake (Figure 1). The proposed Project boundary includes 1,758.1 acres. The USFS manages a total of 1,642.8 acres (94 percent) of this total. USFS lands are part of the Chugach National Forest, which surrounds most of Grant Lake. The Sensitive plant study area (study area) was limited to USFS lands within the Project area, and included 5 vertical feet above the

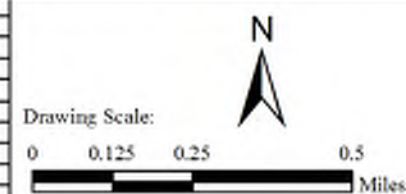
Grant Lake normal maximum elevation of 703 feet NAVD 88 (Figure 4).

Much of the forest in the Project area is old growth. Evidence of past logging of some larger trees within the Project area was observed in the vicinity of the ARRC and the Seward Highway. Spruce snags are common throughout this forest, most likely killed by the massive spruce beetle outbreak on the Kenai Peninsula during the 1990s (Berg et al. 2006). Within the Project vicinity, few populations of invasive plants have been documented very far from highways, railroad right-of-ways (ROW), and other developments (USFS NRIS 2013). There are no existing hydroelectric projects in the Project vicinity.

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REV	DATE	BY	DESCRIPTION



McMILLEN, LLC

THE SONNA BUILDING
910 MAIN ST. SUITE 200
BOULDER, CO 80502

OFFICE: 303.342.4314
FAX: 303.342.4315

Developed For:



GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

BIOLOGICAL EVALUATION

Figure 4
Sensitive Plant Study Area, 2013

DESIGNED: Jake Woodbury

DRAWN: Jake Woodbury

CHECKED: C. Wamsick

ISSUED DATE: 4/29/2015

DRAWING

SCALE: 1:75,000

NO ACTION ALTERNATIVE

For an original License, as is the case with the proposed Grant Lake Hydroelectric Project, the No Action alternative would be denial of the license. Under the No Action alternative, the Project would not be constructed and environmental and human resources in the Project area would not be affected.

SENSITIVE PLANTS

Seventeen vascular plants and one lichen are designated as sensitive in the Alaska Region (Appendix A). The following eight sensitive plants are known or suspected to occur on the Seward Ranger District of the Chugach National Forest:

Eschscholtz's little nightmare (*Aphragmus eschscholtzianus*) grows in alpine and subalpine heath meadows and wet, rocky, or mossy seeps (Goldstein et al. 2009). It is known to occur in the Seward Ranger District, but was not observed during field surveys conducted for the Project. The study area does not have alpine or subalpine habitats and is well below the alpine and subalpine zone, thus potential habitat is not present in the study area.

Moosewort fern (*Botrychium tunux*) grows in well-drained sandy beaches and alpine sites (Goldstein et al. 2009). It is suspected to occur on the Chugach National Forest, but was not observed during field surveys conducted for the Project. The study area does not have well-drained sandy beaches and is well below the alpine zone, thus potential habitat is not present within the study area.

Moonwort fern (*Botrychium yaaxudakeit*) grows in well drained open meadows, upper beach meadows, and coastal dunes (Goldstein et al. 2009). It is suspected to occur on the Chugach National Forest, but was not observed during field surveys conducted for the Project. The study area does not have well drained open meadows, upper beach meadows, or coastal dunes, thus potential habitat is not present within the study area.

Spotted lady's slipper orchid (*Cypripedium guttatum*) grows in open forests, tall shrublands, and wet meadows (Goldstein et al. 2009). It is suspected to occur on the Chugach National Forest but was not observed during field surveys conducted for the Project. The study area does have open forests, tall shrublands, and wet meadows, thus potential habitat is present within the study area.

Calder lovage (*Ligusticum calderi*) typically grows on forest edges and dry and wet meadows in the subalpine and alpine zones (Goldstein et al. 2009). It is suspected to occur on the Chugach National Forest but was not observed during field surveys conducted for the Project. The study area does not have calcareous substrates and is well below the alpine and subalpine zones, thus potential habitat is not present within the study area.

Pale poppy (*Papaver alboroseum*) grows in open areas, areas with sandy, gravelly, well-drained soils; mesic to dry alpine; and recently deglaciated areas (Goldstein et al. 2009). A small population of 20 plants was located on USFS land during field surveys conducted for the Project.

Other habitat with similar sandy, gravelly well-drained soils was surveyed in the study area and no other populations were found.

Alaska rein orchid (*Piperia unalascensis*) grows in dry open sites, tall shrubs in riparian zones, mesic meadows, and dry forests at low elevation to subalpine elevations (Goldstein et al. 2009). It is suspected to occur on the Chugach National Forest but was not observed during field surveys conducted for the Project. The study area does have dry open sites, tall shrubs in riparian zones, mesic meadows, and dry forests, thus potential habitat is present within the study area.

Unalaska mist-maid (*Romanzoffia unalaschcensis*) typically grows on gravelly stream sides, rock outcrop ledges, rock crevices, and beach terraces (Goldstein et al. 2009). It is suspected to occur on the Chugach National Forest but was not observed during field surveys conducted for the proposed Project. The study area does have gravelly streambanks, rock outcrop ledges and crevices, thus potential habitat is present within the study area.

PRE-FIELD REVIEW OF EXISTING INFORMATION

A pre-field review of existing information concerning the plants listed above was conducted for the study area. This review included: the Regional Forester's Sensitive Species List, Alaska Natural Heritage Program (AKNHP) data base records, Conservation Assessment for the Pale Poppy (*Papaver alboroseum*) (Charnon 2007), and consultation with the Chugach National Forest Botanist. The Project proposal, details, maps, and air photos were reviewed.

PLANTS KNOWN Previously documented sightings of sensitive plants in or near the Project area include:

Species:	Location:
Pale poppy (<i>Papaver alboroseum</i>)	Ptarmigan Lake area
Eschscholtz's little nightmare (<i>Aphragmus eschscholtzianus</i>)	[unspecified]
Spotted lady's slipper orchid (<i>Cypripedium guttatum</i>) (historic)	Portage Valley
(Date of records search 4/2/2013 by Linda Kelley)	

PLANTS SUSPECTED The following general habitats (or plant communities) occur in the study area: coniferous forest, mixed coniferous/deciduous forest, forest edge, tall shrublands, low shrublands, rocky areas, rock outcrops, cliffs, gravel, talus, seeps, wet areas, riparian areas, streambanks, waterfalls, lake margins, ponds, marshes, sphagnum bogs, fens, heath, dry meadows, moist-wet meadows, and human disturbance areas.

The sensitive plants listed below are suspected to occur in the study area since the area contains appropriate habitat and is within the known or suspected range of the plants.

Spotted lady's slipper orchid
Pale poppy
Alaska rein orchid
Unalaska mist-maid

FIELD SURVEY FOR SENSITIVE PLANTS

An intuitive controlled type rare plant survey was conducted in the study area (Appendix B). A detailed map showing the exact route that the botanist travelled on the ground is included in Appendix C. Plant Survey Field Forms and R10 TES Plant Element Occurrence field forms completed according to protocol for the Alaska Region, are in the planning file for this Project and are available in Appendix 1b of the Grant Lake Hydroelectric Project Terrestrial Resources Study Report (KHL 2014). The survey took place at the appropriate time of year to identify all sensitive plant species.

The following sensitive plants were located within areas likely to be affected by Project activities:

Papaver alboroseum

Dates of survey: July 18 – July 23, 2013

Study area surveyed by: Kathryn Beck, botanist, of Beck Botanical Services for McMillen, LLC.

Photographs of *Papaver alboroseum* in the Study area were taken and are included in Appendix D, Appendix 1b of the Grant Lake Hydroelectric Project Terrestrial Resources Study Report (KHL 2014), and are on file with: Kathryn Beck, Beck Botanical Services at:

calypso@openaccess.org.

DETERMINATION OF EFFECTS

The Project has the potential to have direct, indirect, and cumulative effects on Sensitive plant species. These types of effects are summarized in the following sections.

1. Direct Effects

Direct effects are those that would occur immediately or soon after the implementation of the action.

Direct effects of the Project may include the following:

- Seasonal drawdown of 13 feet below the maximum lake elevation (the lake level naturally drops 11 feet below its maximum elevation)
- Water level fluctuations

2. Indirect Effects

Indirect effects are caused by the action and are later in time or farther removed in distance, but still reasonably foreseeable (50 CFR 1508.8). Indirect effects of the Project may include the following:

- Introduction and spread of invasive plants
- Increased recreation levels may lead to additional trampling in the vicinity of the Sensitive plant location
- Light and moisture level changes may occur in pale poppy habitat

3. Cumulative Impacts

Under NEPA, “Cumulative impact” is defined as an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably

foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (50 CFR 1508.7).

4. Risk Assessment and Determination

Determination of risks to populations of sensitive plants takes into account: size, density, vigor, habitat requirements, location of the population, and consequence of adverse effect on the species as a whole within its range and within the National Forest. A risk assessment considers two factors: Factor 1) the consequence of adverse (or beneficial) effects on the population, and Factor 2) the likelihood or probability that these effects will occur. Ratings for risk assessment, levels of consequence and levels of likelihood are described in the Appendix E. The direct, indirect and cumulative effects of the proposed Project are used to determine the level of consequence and level of likelihood.

The following 4 sensitive plants are known or suspected to occur on the Seward Ranger District of the Chugach National Forest and have potential habitat present in the study area. For all of the assessed species, the No Action alternative would have no effect on sensitive species as a result of the proposed Project.

Spotted lady's slipper orchid (*Cypripedium guttatum*) is suspected to occur on the Chugach National Forest but has not been documented. This plant was not observed during field surveys conducted for the Project, although potential habitat is present within the study area.

Direct and Indirect Effects

The Project would have no effects to known populations of spotted lady's slipper orchid. Although potential habitat is present, this species has not been found on the Chugach National Forest or the study area and was not located during field surveys conducted for this Project. Potential impacts in the study area resulting from Project implementation could affect potential habitat for this species and thus potentially affect undetected populations. Direct effects would not occur as a result of Grant Lake Reservoir water level fluctuations and drawdown because these would occur in the zone below the natural maximum lake elevation. Indirect effects are possible, including the introduction and spread of invasive plant species in the drawdown zone and an increase in recreation related impacts. Because this species may grow in a variety of habitats, some of the potential impacts that would result from Project implementation have the potential to disturb potential spotted lady's slipper orchid habitat and undetected individuals.

Cumulative Effects

Cumulative effects to this species due to past, present, and reasonably foreseeable projects are possible. Past actions may have impacted undetected individuals or habitat in the study area. Similarly, current or future projects that involve habitat disturbance could affect undetected individuals or habitat. There are no past or current projects (e.g., timber harvest activities, hydroelectric projects, road construction, etc.) in the Grant Lake area. In addition, there are no planned projects in the area, thus no cumulative impacts are expected as a result of implementing the proposed action. The overall risk to this plant on the Chugach National Forest as a result of this Project viewed in conjunction with other past, present, and reasonably foreseeable projects is **low** due to possible adverse effects to habitat or unknown populations.

Risk Assessment and Determination

The consequence of adverse effects from the Project is **low to moderate**, because the Project would result in impacts to habitat, primarily as a result of potential invasive plant introduction and increases in the recreational use of the area. The likelihood of adverse effects of this Project are **low** because the species was not detected during surveys, is not known to occur in the study area, and a Vegetation Management Plan will be implemented during the license term to minimize, monitor and control the impacts of invasive plants to the study area. The overall risk to this plant is **low**; therefore, this Project may adversely impact undetected individuals, but it not likely to result in a loss of viability in the study area, nor cause a trend toward federal listing.

Alaska rein orchid (*Piperia unalascensis*) is suspected to occur on the Chugach National Forest but was not observed during field surveys conducted for the Project. Potential habitat is present within the study area.

Direct and Indirect Effects

The Project would have no effects on known populations of Alaska rein orchid. Although potential habitat is present, this species is not known to occur in Chugach National Forest or the study area and was not located during field surveys conducted for this Project. Potential impacts to the study area resulting from Project implementation could affect potential habitat for this species and thus potentially affect undetected populations. Direct effects would not occur as a result of Grant Lake water level fluctuations and drawdown because these would occur in the zone below the natural maximum lake elevation. Indirect effects are possible, including the introduction and spread of invasive plant species and an increase in recreation related impacts. Because this species may grow in a variety of habitats, some of the potential impacts that would result from Project implementation have the potential to disturb potential Alaska rein orchid habitat and undetected individuals.

Cumulative Effects

Cumulative effects to this species due to past, present, and reasonably foreseeable projects are possible. Past actions may have impacted undetected individuals or habitat in the study area. Similarly, current or future projects that involve habitat disturbance could affect undetected individuals or habitat. There are no past or current projects (e.g., timber harvest activities, hydroelectric projects, road construction, etc.) in the Grant Lake area. In addition, there are no planned projects in the area, thus no cumulative impacts are expected as a result of implementing the proposed action. The overall risk to this plant on the Chugach National Forest as a result of this Project viewed in conjunction with other past, present, and reasonably foreseeable projects is **low** due to possible adverse effects to habitat or unknown populations.

Risk Assessment and Determination

The consequence of adverse effects from the Project is **low to moderate**, because the Project would result in impacts to habitat, primarily as a result of potential invasive plant introduction and increases in the recreational use of the area. The likelihood of adverse effects of this Project are **low** because the species was not detected during surveys, is not known to occur in the study area, and a Vegetation Management Plan will be implemented during the license term to

minimize, monitor and control the impacts of invasive plants to the study area. The overall risk to this plant is **low**; therefore, this Project may adversely impact undetected individuals, but it not likely to result in a loss of viability in the study area, nor cause a trend toward federal listing.

Unalaska mist-maid (*Romanzoffia unalaschcensis*) is suspected to occur on the Chugach National Forest but was not observed during field surveys conducted for the proposed Project. Potential habitat is present within the study area.

Direct and Indirect Effects

The Project would have no effects to known populations of Unalaska mist-maid. Although potential habitat is present, this species is not known to occur in Chugach National Forest or the study area, and was not located during field surveys conducted for this Project. Potential impacts to the study area resulting from Project implementation could affect potential habitat for this species and thus potentially affect undetected populations. Direct effects would not occur as a result of Grant Lake water level fluctuations and drawdown because these would occur in the zone below the natural maximum lake elevation. Indirect effects are possible, including the introduction and spread of invasive plant species in the drawdown zone and an increase in recreation related impacts. Because this species may grow in a variety of habitats, some of the potential impacts that would result from Project implementation have the potential to disturb potential Unalaska mist-maid habitat and undetected individuals.

Cumulative Effects

Cumulative effects to this species due to past, present, and reasonably foreseeable projects are possible. Past actions may have impacted undetected individuals or habitat in the Study area. Similarly, current or future projects that involve habitat disturbance could affect undetected individuals or habitat. There are no past or current projects (e.g., timber harvest activities, hydroelectric projects, road construction, etc.) in the Grant Lake area. In addition, there are no planned projects in the area, thus no cumulative impacts are expected as a result of implementing the proposed action. The overall risk to this plant on the Chugach National Forest as a result of this Project viewed in conjunction with other past, present, and reasonably foreseeable projects is **low** due to possible adverse effects to habitat or unknown populations.

Risk Assessment and Determination

The consequence of adverse effects from the Project is **low to moderate**, because the Project could potentially result in impacts to habitat, primarily as a result of potential invasive plant introduction and increases in the recreational use of the area. The likelihood of adverse effects of this Project are **low** because the species was not detected during surveys, is not known to occur in the Study area, and a Vegetation Management Plan will be implemented (during the license term) to minimize, monitor and control the impacts of invasive plants to the study area. The overall risk to this plant is **low**; therefore, this Project may adversely impact undetected individuals, but it not likely to result in a loss of viability in the study area, nor cause a trend toward federal listing.

Pale Poppy (*Papaver alboroseum*) grows in open areas, areas with sandy, gravelly, well-drained soils; mesic to dry alpine areas; and recently deglaciated areas (Goldstein et al. 2009). A small

pale poppy population was located on USFS land during field surveys conducted for the Project. Other habitat with similar sandy, gravelly well-drained soils was surveyed in the study area, and no other populations were found. In the Grant Lake sensitive plant study area, 20 pale poppy plants were growing on a semi-stabilized, sparsely vegetated, south-facing creek outwash area near the Grant Lake shore, on a cobble, sand, and gravel substrate (Appendix D). The population measured approximately 10 feet by 45 feet in size. The plants are a minimum of 8 feet away from and between 1 and 3 feet higher (704 – 707 feet in elevation) than the natural maximum lake elevation level of 703 feet.

The Grant Lake pale poppy population is located in the Floodplain Forest and Scrub vegetation type. Vegetation present at the site was an early successional community with shrubs, forbs, and graminoids. The population and habitat appear to be increasingly shaded due to natural vegetative succession. Dense Sitka alder and willow shrubs and seedlings dominate the site. Approximately half of the pale poppy plants in the population were growing in the shade of Sitka alder branches. The more densely shaded pale poppy plants were smaller and had fewer capsules than plants that were in less shade. If natural vegetation succession in the vicinity of the Grant Lake pale poppy site continues without natural disturbance (e.g., an avalanche or flood event), it is likely that the already small population will decline naturally in numbers and eventually disappear due to the species' requirement for open, well-drained habitat.

There is a historic cabin, a campsite and two campfire rings with evidence of recent use on the small gravel bar where the pale poppy population was located. There was no visible evidence of trampling of plants, although plants were as close as 5 feet away from one of the campfire rings. The only invasive plant species present in the vicinity of the pale poppy population was common dandelion (*Taraxacum officinale*). Horned dandelion (*Taraxacum ceratophorum*), a native plant species, was observed in similar habitat on the lakeshore and may be mixed with the common dandelion at the site.

Direct and Indirect Effects

A small population of pale poppy, a USFS designated sensitive plant, was located on the shore of the USFS-owned portion of Grant Lake. No proposed Project infrastructure are located on USFS land on Grant Lake; thus there would be no direct loss from the following proposed activities: vegetation clearing for Project components, damage by machinery, soil disturbance, altered natural grading, or fill material placement. The pale poppy population will not be directly affected by the construction or maintenance of Project facilities. The Grant Lake seasonal water level drawdown (between 690 and 703 feet in elevation) will not directly affect areas above the normal high water elevation (703 feet in elevation), and thus will not have direct impacts to pale poppy plants (elevation between 704 and 707 feet) due to inundation. Water level fluctuations are not likely to affect plants because fluctuations will be below the normal high water elevation level.

Indirect effects to sensitive plants are possible due to a seasonal 13-foot drawdown of Grant Lake (the lake level naturally drops 11 feet below its maximum elevation level). Potential indirect effects to plants from the drawdown of Grant Lake include: introduction and spread of invasive plant species, light level changes, and moisture level changes. Indirect effects may also

occur as a result of an increase in recreation in the area as a result of easier access to Grant Lake.

An indirect impact of Grant Lake level drawdown and fluctuations is that invasive plant species may spread into the drawdown zone between 690 and 703 feet in elevation, and subsequently onto adjacent upland areas, including pale poppy habitat. Currently the only invasive plant species present in the vicinity of the pale poppy population is common dandelion.

Changes to light levels in the vicinity of the pale poppy population as a result of the Project are unlikely because plants establishing in the 13-foot drawdown zone would likely be low in stature and thus would not shade the pale poppy population. It seems unlikely that the drawdown would change the rate of natural vegetation succession of the upland plant community in the habitat of the population.

While Grant Lake water level drop to 690 feet in elevation during the early part of the growing season may create an overall drying effect to the pale poppy substrate, pale poppy should not be negatively affected as it is an upland species which is able to grow in very dry habitats.

A historic cabin, a campsite and two campfire rings with evidence of recent use are currently located in close proximity to the pale poppy population. There was no visible evidence of trampling of plants when the population was surveyed in 2013, although plants were located as close as 5 feet away from one of the campfire rings. An indirect impact of potential increased recreational use of Grant Lake may be an increased potential for trampling and possible scorching of some pale poppy plants. In addition, easier recreational access and increased use of Grant Lake may spread invasive species into pale poppy habitat.

Because pale poppy habitat is discontinuously present around the perimeter of Grant Lake, potential indirect impacts resulting from Project implementation, as described above, could have the potential to disturb pale poppy habitat and undetected individuals.

A Vegetation Management Plan to be implemented during the license term, describes measures to assess whether the Project is having negative impacts on the pale poppy population on USFS land and establishes a framework for adaptive management to modify Project infrastructure and/or operations for sensitive plant management. It also has measures to help minimize the establishment and spread of invasive plants in the Project area generally, as well as in the vicinity of the pale poppy population.

Cumulative Effects

Cumulative effects to this species due to past, present, and reasonably foreseeable projects are possible. Past actions may have impacted undetected individuals or habitat in the study area. Similarly, current or future projects that involve habitat disturbance could affect undetected individuals or habitat. There are no past or current projects (e.g., timber harvest activities, other hydroelectric projects, road construction, etc.) in the Grant Lake area. In addition, there are no planned projects in the area, thus no cumulative impacts are expected as a result of implementing the proposed action. The overall risk to this plant on the Chugach National Forest as a result of

this Project viewed in conjunction with other past, present, and reasonably foreseeable projects is **low** due to possible adverse effects to habitat or unknown populations.

Risk Assessment and Determination

The consequence of adverse impacts from the Project on pale poppy is **high**, due to the potential indirect effects on individuals and habitat, small population size, and the potential for effects to unidentified individuals.

The likelihood of adverse effects of this Project on pale poppy are **moderate**, because a Vegetation Management Plan will be implemented during the license term with the goal of preventing adverse effects on the sensitive plant population. The Plan will monitor the effects of increased recreation, and monitor, minimize and control the impacts of invasive plants in the Project area and in the vicinity of the pale poppy population.

The overall risk to this plant as a result of the Project is **moderate to high** since effects may occur to this plant's habitat, individuals may be indirectly affected, and additional undetected individuals may be present in the study area.

Based on the rationale described above, the course of action will likely result in the following impact on the sensitive plants. In summary, because the Project might result in a significant increased risk of loss of viability to the pale poppy population due to indirect effects, it is concluded that the Project is **likely to result in a loss of viability in the Planning Area, or in a trend toward federal listing**.

ADDITIONAL MANAGEMENT RECOMMENDATIONS

The most likely negative impacts to the pale poppy population in the study area are non-Project effects resulting from natural vegetation succession and small population size. If natural vegetation succession in the vicinity of the Grant Lake pale poppy habitat continues without some sort of natural disturbance (e.g., an avalanche or flood event), it is likely that the currently small population will decline in numbers and eventually be extirpated. It is possible that the pale poppy population will not persist regardless of whether the Project is built.

KHL has developed a Draft Vegetation Management Plan (VMP; KHL 2015b). It includes best management practices (BMPs) for construction and operation of the Project, revegetation, and measures for invasive plant monitoring, minimization and control. In addition there are measures specifically designed to protect and mitigate potential negative impacts of the Project on the sensitive plant population. These measures will help minimize impacts from recreational use, and invasive plant introduction and spread in the Project area generally, as well as in the pale poppy population specifically. Collectively, the protective measures implemented in the VMP lower the overall risk level to the pale poppy as a result of the Project to **low to moderate** and would change the determination to **may adversely impact individuals, but not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing**. If the pale poppy population does decline in numbers, it is just as likely that the decrease is as a result of natural vegetation succession making its habitat less suitable.

If any previously undiscovered sensitive plants are encountered at any time prior to or during implementation of this Project, the population will be protected and any disturbance in the area containing the population (and similar habitats in that vicinity) will be avoided. The district or forest botanist/ecologist will be notified immediately to evaluate the population and recommend avoidance or mitigation measures.

MONITORING

Guidelines for monitoring the pale poppy population are included in the VMP.

REFERENCES

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- USFS NRIS. 2013. National Resource Information System. Data extracted June 27, 2013.

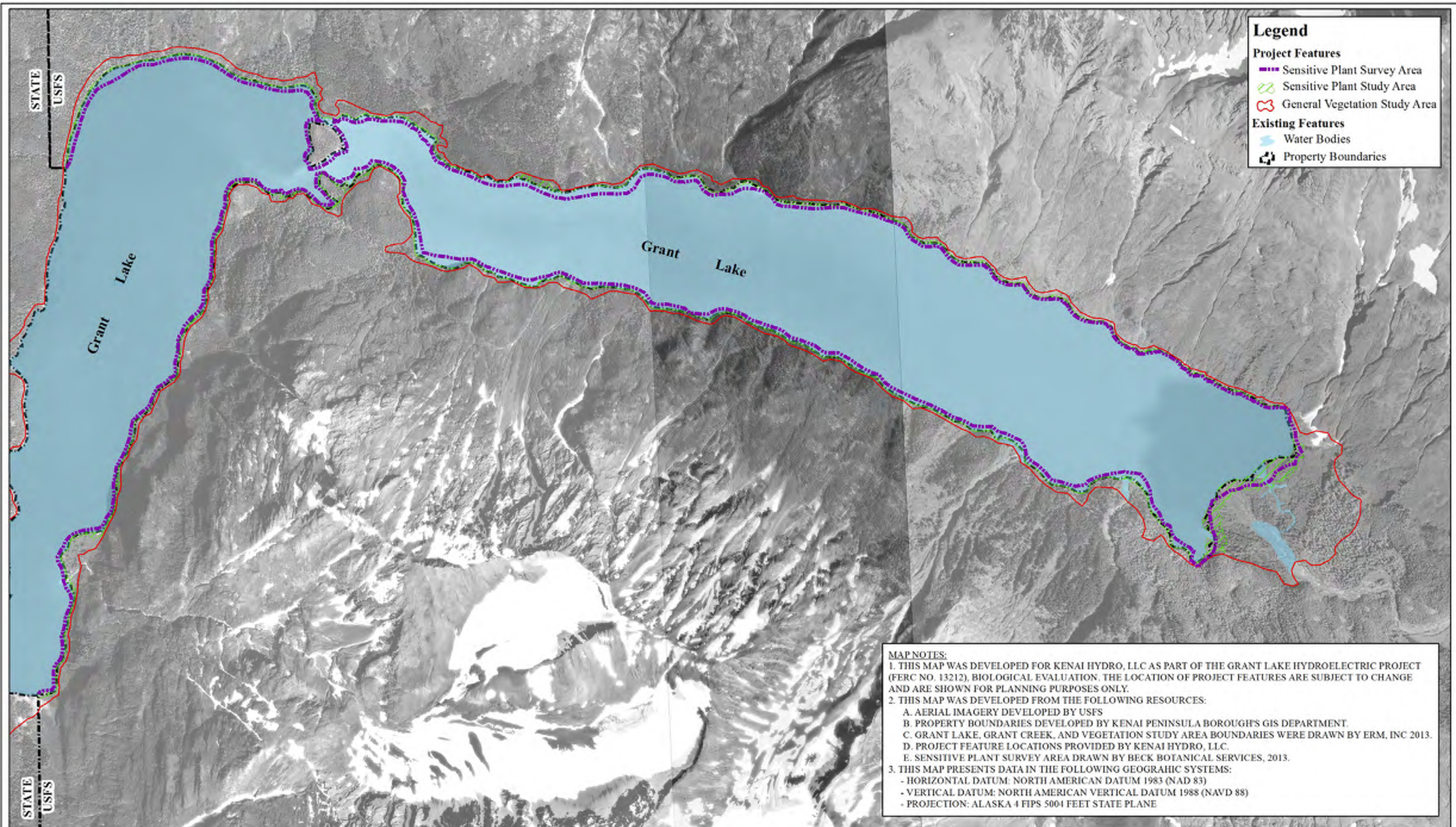
Appendix A. Alaska Region Sensitive Plants, February 2009.

Common Name	Scientific Name	Occurrence	
		CNF	TNF
Vascular Plant			
Eschscholtz's little nightmare	<i>Aphragmus eschscholtzianus</i>	Y	S
Moosewort fern	<i>Botrychium tunux</i>	S	Y
Spatulate moonwort fern	<i>Botrychium spathulatum</i>	S	Y
Moonwort, no common name	<i>Botrychium yaaxudakeit</i>	S	Y
Edible thistle	<i>Cirsium edule</i> var. <i>macounii</i>		Y
Sessileleaf scurvygrass	<i>Cochlearia sessilifolia</i>	S	
Spotted lady's slipper	<i>Cypripedium guttatum</i>	Y	
Mountain lady's slipper	<i>Cypripedium montanum</i>	S	Y
Large yellow lady's slipper	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	S	Y
Calder's loveage	<i>Ligusticum calderi</i>	S	Y
Pale poppy	<i>Papaver alboroseum</i>	Y	S
Alaska rein orchid	<i>Piperia unalascensis</i>	S	Y
Lesser round-leaved orchid	<i>Platanthera orbiculata</i>		Y
Kruckeberg's swordfern	<i>Polystichum kruckebergii</i>		Y
Unalaska mist-maid	<i>Romanzoffia unalaschcensis</i>	Y	Y
Henderson's checkermallow	<i>Sidalcea hendersonii</i>		Y
Dune tansy	<i>Tanacetum bipinnatum</i> subsp. <i>huronense</i>	S	Y
Lichen			
Lichen, no common name	<i>Lobaria amplissima</i>	S	Y

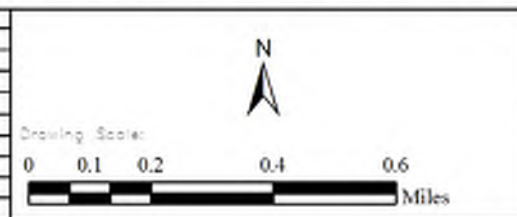
Appendix B. Survey Types.

Survey type	Description
Field Check	The survey area is given a quick “once over” but the surveyor does not walk completely through the project area. The entire area is not examined.
Cursory	A Cursory survey is appropriately used to confirm the presence of species of interest identified in previous surveys or in the pre-field analysis. By its nature, the cursory survey is rapid, and does not provide in-depth environmental information. The entire area is traversed at least once. For example, stand condition as seen in aerial photography can be verified by a cursory survey. Also, a cursory survey can be used to determine if a plant population that had been previously documented at a site remains present or intact.
General	The survey area is given a closer review by walking through the area and its perimeter or by walking more than once through the area. Most of the area is examined
Focused (Intuitive Controlled)	The Focused, or Intuitive Controlled, survey is the most commonly used and most efficient method of surveying for TES plants. During pre-field analysis, potential suitable habitat is identified for each species of interest and the survey effort is focused in those areas. This method requires adequate knowledge of suitable habitat in order to accurately select the areas of focused searching. When conducting intuitive controlled surveys, an area somewhat larger than the identified suitable habitat should be searched to validate current suitable habitat definitions.
Random	Random surveys employ an undirected, typically non-linear, traverse through a project area. They are employed either when there is inadequate natural history information about a species to discern its suitable habitat and the surveyor is simply searching for occurrences, or when a target species is very abundant within a search area and the surveyor is attempting to make estimates of population parameters such as intra-patch variations in density or the occurrence of predation or herbivory. However, a stratified random survey may be more effective in these latter cases.
Stratified Random	This survey is most often used within known population areas of target species, or when an area to be surveyed is of unknown habitat suitability and is relatively large. Stratified random surveys employ a series of randomly selected plots of equal size within a project area that are each thoroughly searched for target species. When conducting a stratified random survey, it is important to sample an adequate number of plots that are of sufficient size if statistical inference regarding the survey area is desired (discussion of sample designs, see Elzinga, C., <i>et al.</i> 1998).
Systematic	Typically used in limited areas where the likelihood of occurrence of a target species may be evenly distributed throughout the survey area. Systematic surveys are often employed either within focused search areas (e.g., stratified random and intuitive controlled methods), or when a proposed project is likely to produce significant habitat alterations for species that are especially sensitive to the proposed activities.

Appendix C. Sensitive Plant Survey Area, Grant Lake Project, 2013.



REV	DATE	BY	DESCRIPTION



McMILLEN, LLC

1401 SHORELINE DR OFFICE 2083424214
 SUITE 100 SUITE 2083424214

Developed For:

HEA Homer Electric Association, Inc.
 A Touchstone Energy Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO. 13212

BIOLOGICAL EVALUATION

**Sensitive Plant Survey Area,
Grant Lake Project 2013.**

DESIGNED: J. Woodbury
 DRAWN: J. Woodbury
 CHECKED: K. Beck
 SEED DATE: 4/29/2015
 SCALE: 1:20,000

Appendix D. Photos of the Grant Lake Pale Poppy Population.



Photo 1. Blooming pale poppy plant.



Photo 2. Pale poppy habitat, Grant Lake.



Photo 3. Pale poppy plants in the shade of Sitka alder branches, Grant Lake.



Photo 4. Pale poppy plants (adjacent measuring tape) near existing fire ring, Grant Lake.

Appendix E. Criteria for Risk Assessment.

Factor 1. Consequence of Adverse Effect From a Particular Activity

- LOW: None, or questionable adverse effect on habitat or population. No cumulative effects expected.
- MODERATE: Possible adverse effects to habitat or to population. Cumulative effects possible.
- HIGH: Obvious adverse effects on habitat or population. Cumulative effects probable.

Factor 2. Likelihood of Adverse Effect From a Particular Activity

- NONE: Activity will not affect habitat or population (no further risk assessment needed).
- LOW: Activity controllable by seasonal or spatial restrictions and not likely to affect habitat or populations.
- MODERATE: Activity not completely controllable or intense administration of project needed to prevent adverse effects on habitat or population. Adverse effects may occur.
- HIGH: Activity not controllable and adverse effects on habitat or populations likely to occur.

From: Warnock, Cory
Sent: Monday, May 18, 2015 8:43 AM
To: gfandrei@ciaanet.org
Cc: Andersen, Emily
Subject: Draft Grant Lake Project (P13212) Management Plans (#1)
Attachments: Grant Lk OM Compliance Plan Draft 05-15-15 FINAL.PDF; Grant Lk Avian Protection Plan Draft 05-15-15 FINAL.PDF

Hi Gary,

I had you on the original list for this correspondence but the email (see below) got kicked back to me due to size exceedance on your inbox. As such, this is email #1 of 2 that will come your way. I've broken the attachments in two in hopes that you'll receive them this way.

Thanks and hope all is well.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

Per KHL's commitment, I am attaching three draft Grant Lake management and monitoring plans (Plans) and a Biological Evaluation (BE) for your review/comment. These Plans and BE are:

- Draft Grant Lake Operation Compliance Monitoring Plan
- Draft Grant Lake Avian Protection Plan
- Draft Grant Lake Vegetation Management Plan (Public Version)
- Draft Grant Lake Biological Evaluation for Plants

Additional documents that have been developed and are being sent to the appropriate entities for review and comment based on either their privileged or content specific nature include:

- Draft Grant Lake Historic Properties Management Plan
- Draft Grant Lake Vegetation Management Plan (Privileged Version)
- Clean Water Act Section 404 Application (Army Corps of Engineers)

In addition to all of the documents mentioned above, a Draft Biotic Monitoring Plan is in the final phases of development and will be distributed for public review and comment shortly. Per previous communications, it continues to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27,

2015 which formally began a 90 day review period which will conclude on June 25, 2015. It is KHL's desire to receive comments from not only the DLA by this date but also the Plans and BE. This will assist in facilitating an efficient comment review and document modification process and ultimately allow us to develop the most comprehensive and collaborative Final License Application for FERC review.

KHL will be filing these Plans and BE with FERC and placing the public documents on the Kenai Hydro website to provide additional mechanisms for download and review. At the risk of being redundant, I'm also copying the instructions I provided for accessing the DLA from FERC eLibrary (see below). With respect to comment responses, if you would like to submit comments in written form, send them to the following address and reference the FERC Project Number (P-13212):

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Instructions For Accessing the Management/Monitoring Plans and BE via FERC eLibrary

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between May 15th and May 25th. This will ensure that the DLA filing is included in your request.
- Under the "Library" category, make sure "Hydro" is selected.
- Under the "Docket Number" category, enter "P-13212"
- Click "Submit" at the bottom of the page.
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific plans that you'd like to review, select the .pdf option and the selected file will open on your computer.

As always, if there are any questions, please don't hesitate to contact me.

Thanks.

From: Warnock, Cory
Sent: Monday, May 18, 2015 8:44 AM
To: gfandrei@ciaanet.org
Cc: Andersen, Emily
Subject: Draft Grant Lake Project (P13212) Management Plans (#2)
Attachments: Grant Lk Veg Management Plan Draft 05-15-15 FINAL Public.pdf; Grant Lake BE Plants Draft 05-15-15 FINAL.PDF

#2

Cory Warnock

Senior Licensing and Regulatory Specialist

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360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

May 15, 2015

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**RE: Draft Natural Resource Management/Monitoring Plans and Biological Evaluation -
Grant Lake Hydroelectric Project (FERC No. 13212)**

Dear Secretary Bose:

Kenai Hydro, LLC (KHL) hereby submits its Draft natural resource management/monitoring plans (Plans) and Biological Evaluation (BE) for stakeholder review and comment.

The proposed Project would be located near the city of Moose Pass, Alaska, on Grant Creek and have an installed capacity of 5.0 megawatts (MW). KHL is proud of the quality science and engineering that has gone into the evaluation of this Project and is extremely encouraged by the results and collaboration that has taken place during the licensing process. The extensive record and associated filings of reports, numerous meetings minutes, comment responses, presentations, etc. speak to this and are directly reflective of KHL's commitment to operate the Project in an environmentally conscious and dependably efficient manner consistent with all requirements put forth in a FERC license order.

Per previous commitment, KHL elected to proactively develop a series of Plans and a BE for review concurrent with stakeholder review of the Draft License Application (DLA). The DLA was filed with FERC and distributed via multiple mechanisms to stakeholders and the interested public on March 27, 2015, facilitating a 90-day review period making comments due on or before June 25, 2015. An email was sent to stakeholders and interested public parties documenting the filing of the DLA as well as KHL's commitment to distribute the attached draft Plans and BE soon thereafter to allow enough time for a parallel review and comment period for both the DLA and these Plans and BE. It remains KHL's hope that this type of review will take place and that comments received reflect this global and comprehensive process.

Documents associated with this filing include:

- Draft Grant Lake Project Operation Compliance Monitoring Plan (OCMP)
- Draft Grant Lake Project Avian Protection Plan (APP)
- Draft Grant Lake Project Historic Properties Management Plan (HPMP; privileged version)
- Draft Grant Lake Project Vegetation Management Plan (VMP; public and privileged version)
- Draft Grant Lake Project Biological Evaluation for Plants (BE)

The HPMP and VMP contain sensitive, detailed information on location of historic and archeological resources, and sensitive plant species, respectively, for which, pursuant to 18 C.F.R. §§ 388.112(b) and 388.113(c)(1), KHL accordingly requests designation and special treatment of the HPMP in its entirety and portions of the VMP as Privileged material.

In addition to this filing, KHL will be distributing the public Plans and BE to stakeholders and the interested public (per global contact list) via email. The public Plans and BE will also be uploaded to the KHL website for downloading.

KHL is currently finalizing one additional plan, a Draft Grant Lake Project Biological Monitoring Plan, which will be filed with FERC and submitted to stakeholders within two weeks of this filing.

On January 27, 2015, KHL filed a timely request for an extension of the Project Preliminary Permit. On February 27, 2015, FERC issued order denying the extension of the term of the preliminary permit. On March 27, 2015, KHL filed a request for rehearing on the order denying the 10 month preliminary permit extension. These Plans and BE further demonstrate the significant progress KHL has made toward Project development.

KHL looks forward to continuing consultation and collaboration on this licensing effort with FERC and the interested stakeholders. If you have any questions regarding KHL's Plans or BE, I can be contacted via email at msalzetti@homerelectric.com or by phone at (907) 283-2375.

Sincerely:

A handwritten signature in blue ink that reads "Mike Salzetti". The signature is written in a cursive, flowing style.

Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Kenai Hydro, LLC
3977 Lake Street
Homer, AK 99603

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

HAND-DELIVERED

May 18, 2015

Katie McCafferty
Project Manager
U.S. Army Corps of Engineers
Regulatory Division, Kenai Field Office
805 Frontage Rd., Suite 200C
Kenai, AK 99611

Dear Ms. McCafferty:

Kenai Hydro, LLC (KHL) is pleased to submit the attached draft "Application for Permit" (Application) for the proposed Grant Lake Hydroelectric Project (FERC No. 13212) near the town of Moose Pass on the Kenai Peninsula. Along with this Application, we are submitting as supplemental reference a draft Jurisdictional Determination Report.

KHL sincerely appreciates your efforts to advise and collaborate during this Application process and the licensing process as a whole. If you have any questions, please do not hesitate to contact me at (907) 283-2375.

Sincerely,

A handwritten signature in blue ink that reads "Mike Salzetti". The signature is written in a cursive, flowing style.

Mike Salzetti
Project Manager

Enclosures

Grant Lake Hydroelectric Project (FERC No. 13212)

DRAFT

Clean Water Act Section 404 Application

For a Department of Army Permit

Submitted to

Department of the Army

United States Army Corps of Engineers

Alaska Region

Submitted by

Kenai Hydro, LLC

May 2015

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Project design figures are presented in the *Draft License Application (DLA) for the Grant Lake Hydropower Project, Exhibit F*

Appendix

Appendix A: USACE General Best Management Practices (BMP) for Projects in Waters of the U.S.

INTRODUCTION

Kenai Hydro, LLC (KHL), a wholly-owned subsidiary of Homer Electric Association, Inc., is filing this U.S. Army Corps of Engineers (USACE) Application for Department of Army Permit for the Grant Lake Hydropower Project (“Project”), FERC No. 13212, pursuant to the Clean Water Act Section 404. This permit application is referred to as the “Section 404 application”. The proposed Project generating facilities will be located on Grant Creek, a natural outlet of Grant Lake, which in its entirety, flows approximately one mile to Lower Trail Lake. Project components are described in detail in the Federal Energy Regulatory Commission (FERC) Draft License Application (DLA) for the Project, Exhibits A and F (KHL 2015a), and are summarized in this application.

The proposed Project will be located near the community of Moose Pass, Alaska, in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska, and just east of the Seward Highway (State Route 9); this highway connects Anchorage to Seward. The Alaska Railroad (ARRC) parallels the route of the Seward Highway, and is also adjacent to the Project area. Grant Lake is located in the mountainous terrain of the Kenai Mountain Range and has a maximum water surface elevation of 703 feet North American Vertical Datum of 1988 (NAVD 88) and surface area of approximately 1,703 acres.

The purpose of this application is to assist the USACE in their assessment of impacts to Waters of the U.S. (referred to as wetlands and waters) caused by the permanent or temporary placement of dredged or fill material associated with the construction and operation of the Project into wetlands and waters. The structure of this Section 404 application is as follows:

The following documents provide supplemental information on the wetlands and waters within the Project area to assist in the evaluation of this Section 404 application:

- *Grant Lake Terrestrial Resources Report, Botanical Resources*, Section 4 (KHL 2014). This report includes the 2013 wetland and waters delineation and the wetland and waters functional assessment and categorization (the categorization is updated in this application).
- *FERC Draft License Application (DLA) for the Grant Lake Hydropower Project Exhibit E* (KHL 2015a). The DLA includes a summary of the wetlands and waters delineation, as well as an assessment of all potential Project impacts to wetlands and waters.
- *Jurisdictional Determination Report* (KHL 2015b). This report presents the request for a Preliminary Jurisdictional Determination from the USACE. It includes the wetland and waters delineation, slightly updated from the Terrestrial Resources Report (above) to include minor revisions to the Project components; it also includes the proposed jurisdictional status of all wetlands and waters within the wetland assessment area.

This Section 404 application is organized as follows. The Section 404 application form is presented first (ENG FORM 4345, July 2013), followed by Blocks of the application form where additional detailed information is provided. Each Block is referenced to the application form by

number. The Mitigation Statement for the Project is presented as part of Block 23. Figures are presented in the Figures section at the end of this document. Detailed Project design figures are presented in the DLA (KHL 2015a) Exhibit F, and are not included in this document.

ENGINEERING FORM 4345

USACE Application for Department of the Army Permit, July 2013 Version

U.S. ARMY CORPS OF ENGINEERS APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT 33 CFR 325. The proponent agency is CECW-CO-R.			Form Approved - OMB No. 0710-0003 Expires: 31-AUGUST-2013	
Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.				
PRIVACY ACT STATEMENT Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.				
(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)				
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE	
(ITEMS BELOW TO BE FILLED BY APPLICANT)				
5. APPLICANT'S NAME First - Mike Middle - Last - Salzetti Company - Kenai Hydro, LLC, Homer Electric Assoc., Inc E-mail Address - MSalzetti@HomerElectric.com		8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Cory Middle - Last - Warnock Company - McMillen Jacobs Associates E-mail Address - warnock@mcmjac.com		
6. APPLICANT'S ADDRESS: Address- 3977 Lake Street City - Homer State - AK Zip - 99603 Country - USA		9. AGENT'S ADDRESS: Address- 5771 Applegate Ln. City - Ferndale State - WA Zip - 98248 Country - USA		
7. APPLICANT'S PHONE NOs. w/AREA CODE a. Residence b. Business c. Fax (907) 235-8551		10. AGENTS PHONE NOs. w/AREA CODE a. Residence b. Business c. Fax 360-384-2662		
STATEMENT OF AUTHORIZATION				
11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.				
_____ SIGNATURE OF APPLICANT		_____ DATE		
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY				
12. PROJECT NAME OR TITLE (see instructions) Grant Lake Hydropower Project				
13. NAME OF WATERBODY, IF KNOWN (if applicable) Several, see attached document		14. PROJECT STREET ADDRESS (if applicable) Address City - Moose Pass State- AK Zip-		
15. LOCATION OF PROJECT Latitude: -N Longitude: -W				
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID Municipality See attached document Section - Township - Range -				

ENG FORM 4345, JUL 2013

PREVIOUS EDITIONS ARE OBSOLETE.

Page 1 of 3

17. DIRECTIONS TO THE SITE See attached document											
18. Nature of Activity (Description of project, include all features) See attached document											
19. Project Purpose (Describe the reason or purpose of the project, see instructions) See attached document											
USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED											
20. Reason(s) for Discharge See attached document											
21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards: <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; width: 33%;">Type</th> <th style="text-align: left; width: 33%;">Type</th> <th style="text-align: left; width: 33%;">Type</th> </tr> <tr> <th style="text-align: left;">Amount in Cubic Yards</th> <th style="text-align: left;">Amount in Cubic Yards</th> <th style="text-align: left;">Amount in Cubic Yards</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="padding-top: 10px;">See attached document</td> </tr> </tbody> </table>			Type	Type	Type	Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards	See attached document		
Type	Type	Type									
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards									
See attached document											
22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions) Acres See attached document or Linear Feet											
23. Description of Avoidance, Minimization, and Compensation (see instructions) See attached document											

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK					
25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).					
a. Address- State of Alaska, Department of Natural Resources, Office of the Commissioner, 550 W. 7th. Avenue, Suite 1400					
City - Anchorage	State - Alaska	Zip - 99501			
b. Address- U.S. Forest Service, Chugach National Forest Supervisor's Office, 161 East 1st Avenue Door 8					
City - Anchorage	State - Alaska	Zip - 99501			
c. Address- Private landowner					
City -	State -	Zip -			
d. Address-					
City -	State -	Zip -			
e. Address-					
City -	State -	Zip -			
26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.					
AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
See attached doc					
* Would include but is not restricted to zoning, building, and flood plain permits					
27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.					
		5/18/2015			
SIGNATURE OF APPLICANT		DATE		SIGNATURE OF AGENT	
				DATE	
The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.					
18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.					

BLOCK 15: LOCATION OF PROPOSED PROJECT

Latitude and longitude of the Project components associated with impacts due to the placement of fill material into wetlands or waters are presented in Table 1. Figure 1¹ presents the general Project location in Alaska; Figure 2 presents the location of all proposed Project components.

Table 1. Locations for Project components with fill impacts (NAD 83 Decimal Degrees, DD)

Project Component	N Latitude (DD)	W Longitude (DD)
Intake	60.46119	149.335195
Intake Access Road- start at Powerhouse Access	60.454471	149.351787
Intake Access Road- end at Grant Lake	60.460908	149.335398
Powerhouse Access Road- start at Seward Highway	60.457923	149.368212
Powerhouse Access Road- end at powerhouse	60.456989	149.350159
Powerhouse Parking	60.456992	149.351172

BLOCK 16: OTHER LOCATION DESCRIPTIONS

The proposed Project lies within the Kenai Peninsula Borough, Section 13 of Township 4 North, Range 1 West; Sections 1, 2, 5, 6, 7, and 18 of Township 4 North, Range 1 East; and Sections 27, 28, 29, 31, 32, 33, 34, 35, and 36 of Township 5 North, Range 1 East, Seward Meridian (U.S. Geological Survey [USGS] Seward B-6 and B-7 Quadrangles). The Project is located in the 6th Hydrologic Unit Code (HUC), Kenai Peninsula watershed, #190203.

BLOCK 17: DIRECTIONS TO THE SITE

Grant Lake is located in the Kenai Mountain Range one mile east of the Seward Highway near the community of Moose Pass, Alaska, 25 miles north of Seward (Figure 1). There are currently no access roads to the Project site. To access the Project area, cross the Trail Lake Narrows between Upper and Lower Trail Lakes, to where Grant Creek flows into the Narrows. The Project area extends along the south side of Grant Creek, to the east, for approximately one mile to Grant Lake.

¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in some of the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015a). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

BLOCK 18: NATURE OF ACTIVITY

Full details of the Project are described in the DLA (KHL 2015a). The Project will consist of the Grant Lake/Grant Creek development, an intake structure in Grant Lake, a tunnel, a surge chamber, a penstock, a powerhouse, tailrace channel with fish exclusion barrier, access roads, a step-up transformer, a breaker, an overhead transmission line, and a switchyard. The powerhouse will contain two Francis turbine generating units with a combined rated capacity of 5 MW with a maximum design flow of 385 cubic feet per second (cfs).

The general proposed layout of the Project and the location of Project components are shown in Figure 2. Specific proposed facility characteristics are listed in Table 2 and described in more detail below. Table 2 is modified from the DLA, Exhibit A (KHL 2015a), Table A.4-1. Detailed Project design figures are presented in the DLA (KHL 2015a) Exhibit F.

Table 2. Project component details.

Project Component	Details
Grant Lake	
Drainage Area	44.2 miles (mi) ²
Surface Area	1,703 acres
Average Annual Natural Outflow	206 cfs
Normal Maximum Lake Elevation	703 ft NAVD 88
Normal Minimum Lake Elevation	690 ft NAVD 88
Water Conveyance	
Intake	Intake structure at lake
Approximate dimensions of intake structure	20 ft x 38 ft
Invert Elevation	675 ft NAVD 88
<i>Bypass Pipe for Instream Flows</i>	
Type	Directional bore with HDPE liner
Length	900 ft
Diameter	18 in
<i>Lower Pressure Pipeline</i>	
Type	Welded steel
Length	200 ft
Diameter	48 in
<i>Pressure Tunnel</i>	
Type	10-ft horseshoe
Length	3,300 ft
Velocity at Maximum Turbine Discharge	3.9 fps
<i>Surge Chamber</i>	
Diameter	120 in
Base Elevation (preliminary)	680 ft NAVD 88
Top Elevation (preliminary)	785 ft NAVD 88
<i>Penstock</i>	
Type	Welded steel
Length	150 ft
Diameter	72 in
Tailrace	
Type	Open channel
Length	95 ft
Fish Exclusion Barrier	
Type	Picket barrier at tailrace outfall
Maximum Design Flow	385 ft
Tailrace Detention Pond	
Approximate Acreage	5 acres
Approximate Capacity	15 ac-ft
Powerhouse	
Approximate Dimensions	50 ft x 100 ft x 30 ft high
Finished Floor Elevation	523 ft NAVD 88
Powerhouse Parking Area	
Type	Gravel pad
Approximate Area	200 ft x 150 ft
Transmission Line	
Type	Overhead
Length	Approximately 3.5 miles
Voltage	115 kilovolt (kV)
Powerhouse Access Road	
Type	Two-lane gravel surfacing with turnouts
Width	24 feet
Length	One (1) mile from Seward Highway to powerhouse
Intake Access Road	
Type	Two-lane gravel surfacing with turnouts
Width	24 feet
Length	One (1) mile from the powerhouse to the intake

Grant Creek Diversion

The proposed Project consists of a reinforced concrete intake structure located on the south side of the natural lake outlet. No structural modifications would be made to the existing lake natural outlet. The Project will divert water up to a maximum of 385 cfs into the intake structure. When the lake level exceeds the natural outlet of 703 feet NAVD 88, a maximum of 385 cfs will be diverted into the intake structure and routed to the powerhouse. Flow in excess of 385 cfs would pass over the natural outlet to Grant Creek.

Grant Lake Intake

The Project water intake would be a concrete structure located approximately 500 feet east of the natural outlet of Grant Lake and adjacent to the shore. The intake structure consists of a reinforced concrete structure extending from approximately elevation 675 NAVD 88 feet up to a top deck elevation of 715 feet NAVD 88. The structure has an outside dimension of 38 feet by 20 feet. The structure includes intake trashracks, selective withdrawal intake gates with wire rope hoist, and a roller gate located on the water conveyance intake. The intake is divided into three bays, each fitted with an intake gate to provide flexibility for delivering the full flow range of 58 cfs to 385 cfs. The gate position within the water column will be set to deliver the required water temperature to Grant Creek below the powerhouse. The roller gate would be 11 feet tall by 11 feet wide and fitted with a wire rope hoist lift mechanism. Electrical power will be extended from the powerhouse to the intake to operate the intake and isolation gates. Pressure transducers will be installed to monitor the water level at the lake as well as within the intake tower. An access bridge 16 feet wide would be installed from the lake shore out to the intake structure.

The intake would allow for drawdown of Grant Lake to elevation 690 feet NAVD 88 thereby creating approximately 18,790 acre-feet of active storage for the project between elevations 703 feet NAVD 88 and 690 feet NAVD 88. The intake can be designed to allow the Project to draw water near the surface at various levels of storage, if deemed necessary to meet downstream temperature requirements. The invert of the intake would be at elevation 675 feet NAVD 88 to provide for adequate submergence to the tunnel.

A bypass pipe would extend from the intake structure to the base of the existing water fall in Grant Creek. The installed pipe would be 900 feet long and approximately 18 inches in diameter allowing the minimum flow ranging from 5 to 10 cfs to be released. A control gate would be located within the intake structure to regulate and monitor the bypass flow releases.

Tunnel and Surge Chamber

The intake structure would connect to a tunnel extending to the Project powerhouse. The tunnel would be approximately 3,300 feet long with a 10-foot-horseshoe shape. Drill and shoot techniques would be used to construct the tunnel using an entrance portal at the powerhouse for access. The lower 900 feet of tunnel would be constructed at a 15 percent slope. This section of the tunnel will be concrete lined. The upper 2,400 feet of tunnel would be constructed at a 1

percent slope and would be unlined. This proposed arrangement provides a low pressure hydraulic conduit in the upper tunnel reaches suitable for an unlined tunnel. A surge chamber is located at the transition between the two tunnel slopes. This chamber is approximately 10 feet in diameter and would extend from the tunnel invert elevation of 670 feet NAVD 88 to the ground surface at approximately elevation 790 feet NAVD 88. The surge chamber provides a non-mechanical relief for hydraulic transients that could occur if a load rejection occurs at the powerhouse. Rock anchors and shotcrete stabilization techniques would be used to stabilize the tunnel exposed rock surface where required. A rock trap would be located at the surge chamber location to collect dislodged rocks from the unlined tunnel section.

The tunnel would transition to a 6-foot diameter steel penstock approximately 150 feet from the powerhouse. The transition section would consist of a welded steel concentric structure which transitions from the 10-foot tunnel section to the 72-inch diameter penstock. A steel liner would extend from the downstream tunnel portal approximately 300 feet into the tunnel. The liner would be installed within the exposed rock surface with grout pumped behind the liner to provide an impermeable and structurally sound tunnel section. A similar steel tunnel liner section would be installed at the connection to the intake structure for a total distance of approximately 150 feet.

Penstock and Surge Chamber

A 72-inch diameter steel penstock extends 150 feet from the downstream tunnel portal to the powerhouse. The welded steel penstock would be supported on concrete pipe saddles along the penstock route. The penstock would bifurcate into two 48-inch diameter pipes feeding each off the powerhouse turbines. The penstock fitted with welded steel thrust rings would be encased in concrete thrust blocks at the tunnel portal as well as the powerhouse. These thrust blocks would be designed to resist the full hydraulic load associated with the Project operation. An interior and exterior coating system would be applied to the penstock providing full corrosion protection. An access manway would be provided on the exposed penstock section allowing access for future inspection and maintenance.

Tailrace

The powerhouse draft tubes would connect to a tailrace channel located on the north side of the powerhouse structure. The draft tubes would extend from a low point elevation of approximately 509 feet NAVD 88 up to the tailrace channel invert elevation of 515 feet NAVD 88. The channel would continue to the east bank of Grant Creek. Each of the draft tubes will be gated allowing the flow to be routed to the detention pond for spinning reserve operation. Isolation bulkheads would be provided allowing dewatering of the draft tubes for inspection and maintenance of the turbine. The tailrace channel would be trapezoidal in shape with a bottom width of 43 feet, side slopes of 2H:1V and a channel depth ranging from 13 feet at the powerhouse to 7 feet at the creek. A concrete structure would be constructed at the confluence of the channel and Grant Creek. A picket-style fish barrier would be placed on this concrete structure as well as provision for installation of stoplogs allowing the tailrace channel to be

dewatered for inspection and maintenance. The channel would be excavated from native material and lined with riprap to provide a long term stable section. A staff gage and pressure transducer will be placed in the channel to monitor the water level in the channel.

Tailrace Detention Pond

An off-stream detention pond would be created to provide a storage reservoir for flows generated during the rare instance when the units being used for spinning reserve are needed for the electrical transmission grid. In this situation, the additional powerhouse flows would be diverted into the detention pond and then released slowly back into Grant Creek. It is anticipated that the discharge associated with a spinning reserve event would be dispersed via the tailrace channel which flows into Grant Creek. The detention pond would be located immediately south of the powerhouse and would have a capacity of approximately 15 acre-feet and a surface area of approximately 5 acres.

Powerhouse and Parking Area

The powerhouse would be located on the south bank of Grant Creek immediately west of the downstream tunnel portal and adjacent to the detention pond. The powerhouse would consist of a concrete foundation and a pre-engineered metal building superstructure. The building would be approximately 100 feet long (east to west) and 50 feet wide (north to south). A gravel pad parking area would surround the powerhouse, with approximate dimensions of 150 x 200 feet.

The penstock would tie into the powerhouse on the south side and the tailrace channel on the north side of the building. The building floor would be set at approximately elevation 523 feet NAVD 88 and the centerline of the turbine runner at elevation 526 feet NAVD 88. The draft tube floor would be set at elevation 509 feet NAVD 88 with an operating tailwater inside the draft tubes ranging from 518.0 feet to 519.3 feet NAVD 88.

Two horizontal Francis type turbine/generator units with a rated total capacity of 5,000 kilowatt (kW) would be housed in the powerhouse structure. The powerhouse flow would range from a maximum of 385 cfs to a minimum of 58 cfs with each turbine operating flow ranging from 192.5 cfs to 58 cfs. Associated mechanical and electrical equipment would include hydraulic power units, turbine isolation valves, penstock drain, utility water system, lube oil system, oil water separator, battery system, and heating, ventilating, and air conditioning (HVAC) system. A control room housing the motor control center (MCC), communication rack, fiber optic panels, computers, and related equipment would also be provided. The Project switchgear would be located within the powerhouse. A standby generator, transformer, and fused pad mounted switch assembly would be mounted on an enclosed switchyard located on the south side of the powerhouse. Dewatering pumps would be provided to support dewatering of the turbine draft tubes. A 30-ton bridge crane would be provided for equipment maintenance. The crane would travel on rails mounted on the steel building support columns. An energy dissipation valve would extend off the penstock and provide bypass flows into the Project tailrace.

Transmission Line/Switchyard

An overhead 115-kilovolt (kV) transmission line will extend from the powerhouse to the existing 115-kV transmission line located on the east side of the Seward Highway. In addition to any overhead transmission structures, the facilities would include a switchyard at the powerhouse consisting of a 115-kV fused pad-mounted disconnect switch and a pad-mounted 115-kV GSU transformer. The transmission line would run from the powerhouse parallel to the access road where it would intersect Chugach Electric's transmission line. The interconnection would have a pole mounted disconnect switch.

Wooden poles would be designed as tangent line structures on about 250-foot centers. Design of the line would also incorporate the latest raptor protection guidelines. Collision avoidance devices would be installed on the line at appropriate locations to protect migratory birds.

Appurtenant Facilities

The following pertinent mechanical and electrical equipment will be applicable to the Project:

- Intake selective withdrawal intake gate
- Intake trashrack system
- Intake roller gate used to isolate the tunnel and downstream generation facilities
- Control gate located on the bypass pipeline pipe
- A 30-ton bridge crane in the powerhouse
- Pumps located in the power used to dewater the draft tubes
- Pressure transducers located throughout the project used to monitor the water level in the reservoir, tunnel and tailrace, as well as pressures in the tunnel and penstock
- Security cameras at the intake and powerhouse
- Sanitary waste holding tank at the powerhouse
- A power line extending from the powerhouse to the intake to supply electrical power to the gates and trashrack
- Temperature instrumentation at the intake structure and at various stream locations to monitor water temperature

This equipment along with other identified miscellaneous mechanical and electrical equipment will be developed during the final design and included in the construction documents.

Access Roads

The Project would require an access road to both the powerhouse located near the base of the Grant Creek canyon and to the intake at Grant Lake. The access road would be used to construct

the Project and, afterwards, to maintain the facilities. It is anticipated that the powerhouse would be visited approximately once a week and the intake visited approximately once a month beginning just after the ice melts and continuing until just before freeze up. The powerhouse access road would be maintained year around. The intake access road would not be maintained in winter.

The 24-foot wide access road would tie into the Seward Highway at approximately MP 26.9. The route would travel eastward to cross Trail Lakes at the downstream end of the narrows between Upper and Lower Trail lakes and then continue eastward to the powerhouse. This route would be approximately one mile long. It would cross the ARRC tracks near an existing railroad crossing for a private driveway. The road would cross the narrow channel connecting Upper and Lower Trail lakes with an approximately a 110-foot-long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The proposed route would avoid cuts and travel along the base of some small hills on the south side of Grant Creek to the powerhouse. This proposed access road would have one 90-degree crossing of the Iditarod National Historic Trail (INHT).

The intake access road would be approximately one mile long, beginning at the powerhouse. The road would ascend a 230-foot bluff to reach the top of the southern rim of the Grant Creek canyon. A series of road switchbacks would be required to maintain a road grade of less than 8 percent. The road would then generally follow the southern edge of the canyon until it descends to Grant Lake. A small parking area and turn-a-round area would be provided at the intake structure. A 16-foot wide bridge will extend from the bank out to the intake structure.

The road would be gravel with a 16-foot top width. Maximum grade would be 8 percent. Periodic turnouts would be provided to allow construction traffic to pass. These turnouts would not be constructed within wetlands or waters areas. Fifty-foot radius curves would be used to more closely contour around the small steep hills of bedrock to limit the extent of the excavation and the height of the embankments.

BLOCK 19: PROJECT PURPOSE

KHL is a wholly-owned subsidiary of Homer Electric Association, Inc. (HEA), a member-owned electric cooperative that serves 33,308 meters with 2,406 miles of energized line in a 3,166 square miles service area in Southcentral Alaska. Ninety-one percent of HEA's current generation needs (approximately 470,000 megawatt hour (MWh)/year) are met via fossil fuel generation. In recognition of the importance to the environment and the need to provide power for sustainable growth, HEA's Board of Directors adopted a policy (HEA Board Policy 505 – Renewable Portfolio Goal) that set a renewable energy goal. The goal states that the cooperative will use best efforts to meet 22 percent of its annual peak generation with renewable energy by 2018. Furthermore, the State of Alaska and Legislature have adopted a renewable energy goal of 50 percent renewable energy by 2025. Additionally HEA would like to diversify its fuel mix and reduce its dependence on the expensive natural gas supply (currently at \$6.90/Mcf) available in

the Cook Inlet Area. While approximately 9 percent of HEA's current generation needs are met through their stake in the Bradley Lake Hydroelectric Project, the operation of the Grant Lake Project would provide an additional 4 percent annually and represent KHL's first fully-owned hydroelectric facility. To meet this goal, feasibility studies were completed for three other potential projects, in addition to the Grant Lake Project: Falls Creek, Ptarmigan Lake, and Crescent Lake were evaluated. Based on these studies it was determined that the Grant Lake Project was the most practicable alternative to meet the energy needs of HEA's customers.

From a global perspective, Alaska has a significant dependence on fossil fuels for its current power demands. The obvious negative implications from an environmental perspective are directly related to greenhouse gas emissions. By incorporating hydroelectric generation into its portfolio, a commitment is being made to begin to reduce greenhouse gas emissions controlled by HEA.

Project construction is estimated to begin April 2018, and be completed October 2019. The Project will begin operation January 2020, and is expected to be in operation indefinitely. This schedule is based on current project and component execution planning and presently anticipated dates for receipt of permits and other regulatory approvals.

BLOCK 20: REASONS FOR DISCHARGE

This section details the reason for permanent or temporary fill discharge due to facilities and access roads. Figure 3 presents an overview of the locations of permanent fill to be placed within Project wetlands and waters. Figures 4 and 5 present the west and east halves of the Project corridor for a more detailed view of permanent fill areas. As presented in Table 2, Section 404 regulated project components (fill) include: intake structure, powerhouse parking, transmission line power poles, powerhouse access road, and intake access road, and culverts associated with the access roads. Individual proposed facility design drawings are provided in the DLA Exhibit F (KHL 2015a). See Block 21 Types of Material Being Discharged, Table 3 for further description of the area of fill material to be placed in wetlands or waters by Project component.

Permanent Placement of Fill

Access Roads

Approximately 1.93 miles of gravel roads will be constructed within the Project area. Permanent placement of gravel fill for the two gravel access roads (powerhouse road and intake access road) are required to provide a reliable year-round means to safely access and operate the proposed Project facilities. KHL anticipates utilizing a majority of the rock excavated from the tunnel for road construction. Additional gravel needed for other structures will be extracted off site. Project design engineers made all efforts to avoid crossing of wetland or waters where possible, however given the steep terrain along the access routes, in some areas there are no practicable routes to

completely avoid wetlands and waters. Block 18, Nature of Activity, above, provides a detailed description of the access roads, including the need for the roads for the Project, dimensions, and the timeframe of use each year.

Approximately 14 cross-drainage culverts with diameters of 12 to 36-inches will be installed in the roads to mitigate water impoundment upflow of the roads. The location and distance between the culverts will be determined by local hydrologic and topography features. Culvert number and dimensions will be refined as Project design advances from preliminary to final and as a road alignment is confirmed based on updated bathymetry and on-site conditions during construction.

Facilities

The proposed location of two Project facilities will require the permanent placement of fill into wetlands or waters: the intake at the outlet of Grant Lake and the powerhouse parking area. All other facilities will be placed in non-wetland or waters areas.

Placement of an intake structure within the energy-producing waterbody is instrumental for the development of any hydropower project. As such, the intake structure for this Project needs to be placed within Grant Lake (deepwater and shoreline area) to fulfill the Project goals. Of the options explored for the intake structure (e.g. a dam versus a low-level intake structure), the currently-proposed low-level intake structure will require the least amount of fill (concrete) to be placed within Grant Lake.

The location of the powerhouse was selected for both its proximity to the base of the bypass reach of Grant Creek and its location at the base of the steep section where the head is generated for power production. “Reach 5” of Grant Creek is the section of the creek that will be designated the bypass reach. That is to say that flows in this section will be decreased as a result of the Project diverting water from Grant Lake through the aforementioned intake, down a tunnel, through the penstock and into the powerhouse. Per the DLA, this reach contains minimal habitat for the aquatic species present. The powerhouse (and associated powerhouse parking area) will be placed adjacent to Grant Creek to provide direct access for return of the diverted water to the creek with minimal impact to the flow regime downstream in the more habitat rich Reaches 1-4 and associated side channels.

Transmission Line Poles

The transmission line will be an overhead, 115-kV line located along the proposed powerhouse access road. Individual pole locations have not yet been identified. The locations where poles result in temporary or permanent impact will be identified in the production of the design documents (plans and specifications).

Temporary Placement of Fill

Temporary fill or ground disturbance within wetlands or waters is expected to occur at the Grant Lake shore, associated with construction of the intake structure and directional drilling of the tunnel and the bypass pipe. As part of intake construction and directional drilling of the tunnel and the bypass pipe, temporary fill will be placed for construction of a landing/access area along approximately 100 feet of Grant Lake shoreline. At the completion of construction, this filled area will become the east end of the intake access road. Dredged or bored material resulting from the boring of the tunnel and bypass pipe will not be stockpiled in a wetland or water.

Additionally, ground disturbance and temporary storage associated with the construction of roads or Project facilities will be associated with existing permanent fill areas; therefore no ground disturbance or temporary storage will occur in wetland or waters areas.

BLOCK 21: TYPES OF MATERIAL BEING DISCHARGED

Table 3 details the estimated material discharges (volume and type) per Project component, estimated as of the writing of this report. Figures 3, 4 and 5 present the locations of fill to be placed within Project wetlands and waters. An estimated 830 cy of concrete and approximately 8,265 cy of gravel fill will be placed in Grant Lake and shoreline areas for gravel fill. KHL anticipates utilizing a majority of the rock excavated from the tunnel for road construction. Additional fill needed for other structures will be extracted off site. This fill volume calculation does not include potential fill in wetlands or waters due to transmission line poles, the locations of which are to be determined. Any changes to material volumes to be placed within wetlands or waters will be addressed through a written addendum to this application.

Table 3. Material volumes to be placed in wetlands and waters

Project Component	Placement Volume (cy)	Affected Acres	Affected Linear Feet	Type of Material
Intake	830	0.05	0.00	Concrete
Intake Access Road	420	0.03	144.01	Gravel fill
Powerhouse Access Road	6,855	0.35	323.20	Gravel fill
Powerhouse Parking	990	0.06	81.79	Gravel fill
Transmission line poles	TBD	TBD	0.00	Wood
Totals	9,095.00	0.49	549.00	

BLOCK 22: SURFACE AREA OF WETLANDS OR OTHER WATERS FILLED

Figures 3, 4 and 5 present the locations of fill to be placed within Project wetlands and waters, as of the writing of this application. Table 4 presents the acres of fill that will be permanently placed in wetlands or waters. Fill areas were calculated as the entire fill volume for each Project feature, based on the area of the toe of the slope of gravel fill. Fill areas are labeled on Figures 3, 4 and 5 with the Impact ID presented in Table 4. Areas of fill in intermittent and perennial streams are too narrow to view at the scale of the figures.

A total of 0.49 acres of wetlands and waters, and 549 linear feet of waters will be filled as part of the Project (Table 4). This fill area calculation does not include potential fill in wetlands or waters due to transmission line poles, the locations of which are to be determined. Each wetland or water to be filled by a given Project component was assigned an impact identification number (presented in Table 4) for reference on Figure 3. Project infrastructure and facilities are expected to change slightly, but not significantly, prior to Project construction. Any changes to fill within wetlands or waters will be addressed through a written addendum to this application.

Table 4. Permanent Fill by Wetland/Water Type

Wetland/ Water Type	HGM Position	Functional Class ¹	NWI Class/ Subclass	Category ²		Fill by Project Component (Acres)					
					Impact ID	Intake	Intake Access Rd	Powerhouse Access Rd	Powerhouse Parking	Poles	Total
Scrub-Shrub Wetland	Depressional	Palustrine broadleaved evergreen scrub-shrub and emergent mixed wetlands ²	PSS3/EM1	II	F1	/	/	0.055	/	TBD	0.055
		Palustrine needle leaved and broadleaved evergreen scrub- shrub and emergent mixed wetland	PSS4/3/EM1	II	F2	/	/	0.051	/	TBD	0.051
		Palustrine deciduous scrub- shrub wetlands	PSS1	II	F3	/	/	0.004	/	TBD	0.004
		Palustrine deciduous scrub- shrub and emergent mixed wetlands	PSS1/EM1	II	F4	/	/	0.165	/	TBD	0.165
	Riverine	Palustrine deciduous scrub- shrub and emergent mixed wetlands	PSS1/EM1	II	F5	/	/	0.064	/	TBD	0.064
			PSS1/EM1	II	F6	/	/	/	0.057	TBD	0.057
			PSS1/EM1	II	F7	/	0.016	/	/	TBD	0.016
	Lacustrine	Palustrine deciduous scrub- shrub wetlands	PSS1	II	F8	/	0.005	/	/	TBD	0.005
			PSS1	II	F9	0.004	/	/	/	TBD	0.004
	Open Water	Lacustrine	Unvegetated shallow water	L2UB	II	F10	0.005	/	/	/	TBD
Unvegetated deep water			L1UB	II	F11	0.036	/	/	/	TBD	0.036
Intermittent Stream	Riverine	Unvegetated intermittent streams	R4SB	II	Int1	/	/	0.003	/	TBD	0.003
			R4SB	II	Int2	/	/	0.008	/	TBD	0.008
			R4SB	II	Int3	/	0.001		/	TBD	0.001
			R4SB	II	Int4	/	/	0.004	/	TBD	0.004
			R4SB	II	Int5	/	/	/	0.004	TBD	0.004
			R4SB	II	Int6	/	0.001	/	/	TBD	0.001
			R4SB	II	Int7	/	0.001	/	/	TBD	0.001
Perennial Stream	Riverine	Unvegetated perennial streams	R3UB	II	Per1	/	0.002	/	/	TBD	0.002
			R3UB	II	Per2	/	0.001	/	/	TBD	0.001
			Total Acres Fill			0.045	0.028	0.354	0.060	TBD	0.49
			Percent of Total Acres Fill			9.3	5.8	72.5	12.4		100.0

1: Functional classes are from the Terrestrial Resources Report (KHL 2014a).

2: Mitigation categories were originally presented in the Terrestrial Resources Report. Category assignments were subsequently revised to reflect new USACE category definitions developed in 2014. Hence all wetlands/waters were assigned to category II based on the revised definitions. The "palustrine broadleaved evergreen scrub-shrub and emergent mixed wetland" functional class was assigned to category III in the Terrestrial Resources Report; this was the only functional class with fill impacts to be upgraded from category III to category II.

BLOCK 23: DESCRIPTION OF AVOIDANCE, MINIMIZATION, AND COMPENSATION (MITIGATION STATEMENT)

This section details how the Project planning process has avoided and minimized impacts to wetlands and other waters of the U.S. for the proposed Grant Lake Hydroelectric Project; and how unavoidable impacts will be compensated. The following response addresses Block 23 in the 404 Application as well as the ‘Mitigation Statement’ requirements in accordance with the 2008 Final Mitigation Rule (USACE 2008). Italicized text is taken directly from the USACE document, “Applicant Proposed Mitigation Statements” which provides guidance on what should be provided as part of a mitigation statement.

In addition to the impact avoidance and minimization measures associated with specific Project components presented below, best management practices (BMP) will be strictly followed throughout construction and operation of the Project. KHL and all subcontractors will follow the BMPs listed in the USACE document *General Best Management Practices for Projects in Waters of the U.S.*, presented in Appendix A.

Avoidance of impacts to waters of the U.S., including wetlands

Please describe how, in your project planning process, you avoided impacts to waters of the U.S., including wetlands, to the maximum extent practicable. Examples of avoidance measures include site selection, routes, design configurations, etc...

The Project components and access routes have been positioned to avoid wetlands, streams, and lakes to the greatest extent practicable. Project features have also been designed to minimize footprint and yet safely and practically implement the Project. A summary of specific measures taken to avoid impacts to wetlands and waters is provided below.

- *Grant Creek diversion*: no dam will be built to divert water at the Grant Lake outlet, and no structural modifications would be made to the existing lake natural outlet.
- *Tunnel*: the tunnel will be directionally drilled from the intake structure to the penstock/powerhouse which will create less impact than trenching and placement of the tunnel. Material from tunnel drilling will not be stockpiled in a wetland or water, or where the stockpile could cause sedimentation into a wetland or water.
- *Tailrace*: the tailrace will be excavated into a non-wetland area along Grant Creek; it will be armored with riprap to avoid erosion and sedimentation into Grant Creek.
- *Access bridge*: the bridge across the Trail Lake Narrows will be a 110-foot long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The east abutment fill will not be placed within the Narrows, and there are no wetlands on the east side of the Narrows.

Minimization of unavoidable impacts to waters of the U.S., including wetlands

Please describe how your project design incorporates measures that minimize the unavoidable impacts to waters of the U.S., including wetlands, by limiting fill discharges to the minimum amount/size necessary to achieve the project purpose.

Project BMPs will be developed for multiple resource areas for the purpose of minimizing impacts to wetlands and waters, including minimizing erosion potential and sediment deposition related to construction and maintenance of water quality, and to ensure no impact to any sensitive plants or promotion of invasive plant species associated with construction and operations.

The following management plans and measures will be developed to minimize impacts to wetlands and waters. Management plans will include specific BMPs to be implemented during project construction and operations to minimize project impacts.

- **Vegetation Management Plan:** Describes methods to both minimize invasive plant development in the Project area and maintain existing populations of sensitive species documented during licensing studies
- **Water Protection Quality Measures**
 - Hazardous Materials Containment/Fuel Storage Plan Measures
 - Spill Prevention, Control and Containment Plan (SPCCP) Measures
- **Erosion and Sediment Control Plan:** Description of measures to be implemented during construction to minimize erosion and sediment deposition associated with construction activities

For Project components where impacts to wetlands and waters were unavoidable, a summary of specific measures taken to minimize impacts is provided below.

- *Grant Lake intake:* the low level intake structure will maintain the natural maximum lake level. Detailed studies were conducted to determine the optimal level from which to draw water to maintain the natural thermal and chemical regime in Grant Creek.
- *Detention pond:* the detention pond will use a natural wetland feature rather than excavating and constructing a new pond feature. This approach reduces construction impact to wetlands and non-wetlands, as well as reduces the dredging of and placement of fill into a wetland.
- *Powerhouse and parking area:* the powerhouse itself will not be placed in a wetland or water. Gravel fill associated with the parking area will be placed in a wetland associated with the intermittent outlet of the detention pond wetland, as well as in the outlet stream itself.
- *Transmission line:* the overhead transmission line will run directly adjacent to the powerhouse access road, which will allow for overlap of impact areas during construction and operation, such as permanent vegetation clearing that will be required for both the road and the transmission line.

- **Access roads:** in addition to general routing to minimize crossing of wetlands and waters, the access roads have been designed to minimize impacts in the following ways:
 - Cross-drainage culverts will be installed at each mapped intermittent or perennial stream along the route, as well as any other ephemeral drainage swales to avoid ponding and allow water movement under the roads. The culverts will be properly sized to convey all foreseeable storm or runoff events, to avoid erosion of the road bed, and sedimentation into associated or downstream wetlands and waters.
 - The road surface will be gravel rather than pavement, providing a permeable surface that will allow for a certain amount of infiltration, reducing runoff from the road surface. This permeability will be balanced by the need to provide a stable road bed that does not easily erode during storm events or spring runoff, minimizing sedimentation and turbidity in streams and wetlands.
 - Traffic on the roads will be minimal,² minimizing dust and the potential for vehicle contaminants to enter wetlands or waters, as well as reducing maintenance requirements. It is anticipated that the powerhouse road will be traveled once per month, year round. The intake road will be traveled once per month from spring through fall, and would not be maintained in winter.

Compensation for unavoidable impacts to waters of the U.S., including wetlands

Please describe your proposed compensatory mitigation to offset unavoidable impacts to waters of the U.S., or, alternatively, why compensatory mitigation is not appropriate or practicable for your project. Compensatory mitigation involves actions taken to offset unavoidable adverse impacts to waters of the U.S., including wetlands, streams and other aquatic resources (aquatic sites) authorized by Corps permits. Compensatory mitigation may involve the restoration, enhancement, establishment (creation), and/or the preservation of aquatic sites. The three mechanisms for providing compensatory mitigation are mitigation banks, in-lieu fee of mitigation, and permittee-responsible mitigation. Please see the definitions for additional information.

Wetland and Waters Functional Assessment and Categorization

The functions of wetlands and waters within the wetland assessment area were assessed as part of the 2013 wetland and waters study; results of the functional assessment are presented in the Terrestrial Resources Report (KHL 2014). Wetlands were also assigned to a category based on wetland functions, and condition, based on the USACE category definitions in use at the time of the writing of the report, which followed those presented in USACE's Alaska District Regulatory

² KHL intends to evaluate public input related to the Project access road prior to determining whether the road is open to the public or restricted access to KHL for Project operations only. The level of use of this road will be determined by this process.

Guidance Letter (RGL) 0901 (USACE 2009). In May, 2014, USACE published revised category definitions, which distill the previous four categories, into three categories. The updated definitions from the USACE document titled [HOWWetlandCategoriesRatios.pdf](#) "Ratios for Compensatory Mitigation", May 1, 2014 (USACE 2014), are provided in Table 5.

Under the RGL 0901 definitions the Project area wetlands and waters were assigned to both categories II and III. Based on the new definitions (Table 5), all wetlands, as well as waters (which were not previously categorized) would be appropriately categorized as category II wetlands.

Table 5. Definitions of functional categories, updated by USACE May 2014

Category	USACE Updated Definition
I	These are wetlands that: 1) provide habitat for threatened or endangered species that has been documented; 2) represent a high quality example of a rare wetland type; 3) are rare within a given region; 4) provide habitat for very sensitive or important wildlife or plants; and/or 5) are undisturbed and contain ecological attributes that are impossible or difficult to replace within a human lifetime, if at all. Examples of the latter are mature very productive forested wetlands unique to an ecoregion that may take a century to develop, and certain bogs and fens with their special plant populations that have taken centuries to develop. The position and function of the wetland in the landscape plays an integral role in overall watershed health.
II	These wetlands can be important for a variety of wildlife species and can be critical for the watershed depending on where they are located. In contrast to Category I wetlands, Category II wetlands do not provide critical habitat for any T&E species or species of concern. Generally these wetlands are pristine, not fragmented; common but more productive and sustain higher biodiversity compared to Category III wetlands.
III	These wetlands are usually plentiful in the watershed often with the least biodiversity. Category III wetlands are not rare or unique and overall productivity and species diversity are relatively low. These wetlands may be impacted by man (or by fire or other natural events) and are not considered to be "pristine" examples and as a result, in some cases require less than 1:1.

Proposed Compensation for Impacts

The USACE's preferred method of compensatory mitigation is through mitigation banking, followed by in-lieu fee of mitigation (ILF), and permittee-responsible mitigation. The use of a mitigation bank is not an option, as there are currently no established mitigation banks that service the watershed where the Project is located (HUC6 Kenai Peninsula 190203). The closest mitigation banks are located in the Municipality of Anchorage and in the Mat-Su Borough. Permittee-responsible mitigation is also not being considered, due to a lack of interest by KHL to undertake a mitigation project, and the lower preference by USACE for permittee-responsible mitigation. As such, ILF is proposed as the method for compensatory mitigation for the Project.

ILF programs typically provide two options for wetland/waters mitigation, 1) rehabilitation or enhancement of degraded wetlands/waters, or 2) preservation of wetlands/waters. In Alaska, the option of using the ILF rehabilitation or enhancement is limited to select areas (e.g. Municipality of Anchorage and the Mat-Su Borough), and is not available in the Project watershed service

area. Therefore, we propose the use of ILF through preservation of off-site wetlands/waters as the mechanism of compensatory mitigation. The Conservation Fund (TCF) is the only USACE-approved ILF provider for the service area.

Table 6 presents the total impacted acres, proposed exchange ratio, and required credits for the impacts to wetlands and waters. Per the most up to date USACE ratios for compensatory mitigation (USACE 2014), the ratio for mitigation using preservation for category II wetlands is 2:1. Therefore to mitigate for the loss of 0.49 acres of wetlands/waters, the Project would require 0.98, or approximately 1 mitigation credit. This is further divided into impacted acres and credits required by HGM type, which TCF uses to determine the specific type of wetland or water that will be preserved for the ILF mitigation.

Table 6. Proposed Project mitigation ratios and ILF preservation credit requirements in acres

HGM Type ¹	Total Impacted Acres	Proposed Exchange Ratio ²	Credits Required
Depressional	0.28	2:1	0.55
Riverine or lacustrine	0.21	2:1	0.43
Totals	0.49		0.98

1: HGM groupings are used by the ILF provider to determine cost per credit

2: Ratio for category II wetlands/waters using ILF preservation, per USACE 2014 ratios. All Project wetlands/waters are considered category II.

BLOCK 26: LIST OF OTHER CERTIFICATES OR APPROVALS/DENIALS RECEIVED

Table 7 lists the regulatory actions that will be applied for prior to construction in order for the Project to be properly permitted and certified. Additional permits or certifications may be required as the Project licensing process continues.

Table 7. Key Regulatory Actions

Agency	Permit
Federal	
Federal Energy Regulatory Commission	Hydropower License
U.S. Army Corps of Engineers	Clean Water Act Section 404
U.S. Forest Service	Special Use Permit
State	
Alaska Department of Environmental Conservation, Division of Water	Section 401 Water Quality Certification Waiver
Alaska Department of Natural Resources	Land Use Permits
	Temporary Water Use
Alaska Department of Fish and Game	Fish Resource
	Fish Habitat
Alaska Department of Natural Resources, State Historic Preservation Office	Section 106 Clearance

REFERENCES

- KHL (Kenai Hydro, LLC). 2014. Grant Lake Hydroelectric Project (FERC No. 13212). Terrestrial Resources, Final Report. Prepared by McMillen LLC for Kenai Hydro, LLC. June 2014.
- . 2015a. Draft License Application for the Grant Lake Hydropower Project FERC No. 13212. Exhibits A, E, F and G. March 2015.
- . 2015b. Jurisdictional Determination Report for Wetlands and Other Waters of the U.S. Grant Lake Hydropower Project FERC No. 13212. Prepared for the U.S. Army Corps of Engineers by KHL. May 2015.
- USACE (U.S. Army Corps of Engineers). 2008. Compensatory Mitigation for Losses of Aquatic Resources, Final Rule. 33 CFR Parts 325 and 332.
- . 2009. Alaska District Regulatory Guidance Letter, RGL No. 09-01. Guidance on Alaska District implementation of the Federal Rule on Compensatory Mitigation for Losses of USFS (U.S. Forest Service). 1984. Birds of the Chugach National Forest. Alaska Region Leaflet Number 69. Chugach National Forest, Anchorage, Alaska. 19 pp.
- . 2014. Ratios for Compensatory Mitigation. Pdf document titled "HOWWetlandsCategoriesRatios.pdf". May 1, 2014.

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FIGURES

Map features are derived from photogrammetric mapping, site surveys, and civil engineering data. Features are displayed using the Alaska State Plane Coordinate System, Zone 4 (FIPS 5004) projection and North American Datum 1983 (NAD 83) datum. Elevation information is based on NAVD 88.

Figure 1. Location map of Project vicinity³

Figure 2. General Project features and facilities

Figure 3. Fill impacts to wetlands and waters- Overview

Figure 4. Fill impacts to wetlands and waters- West

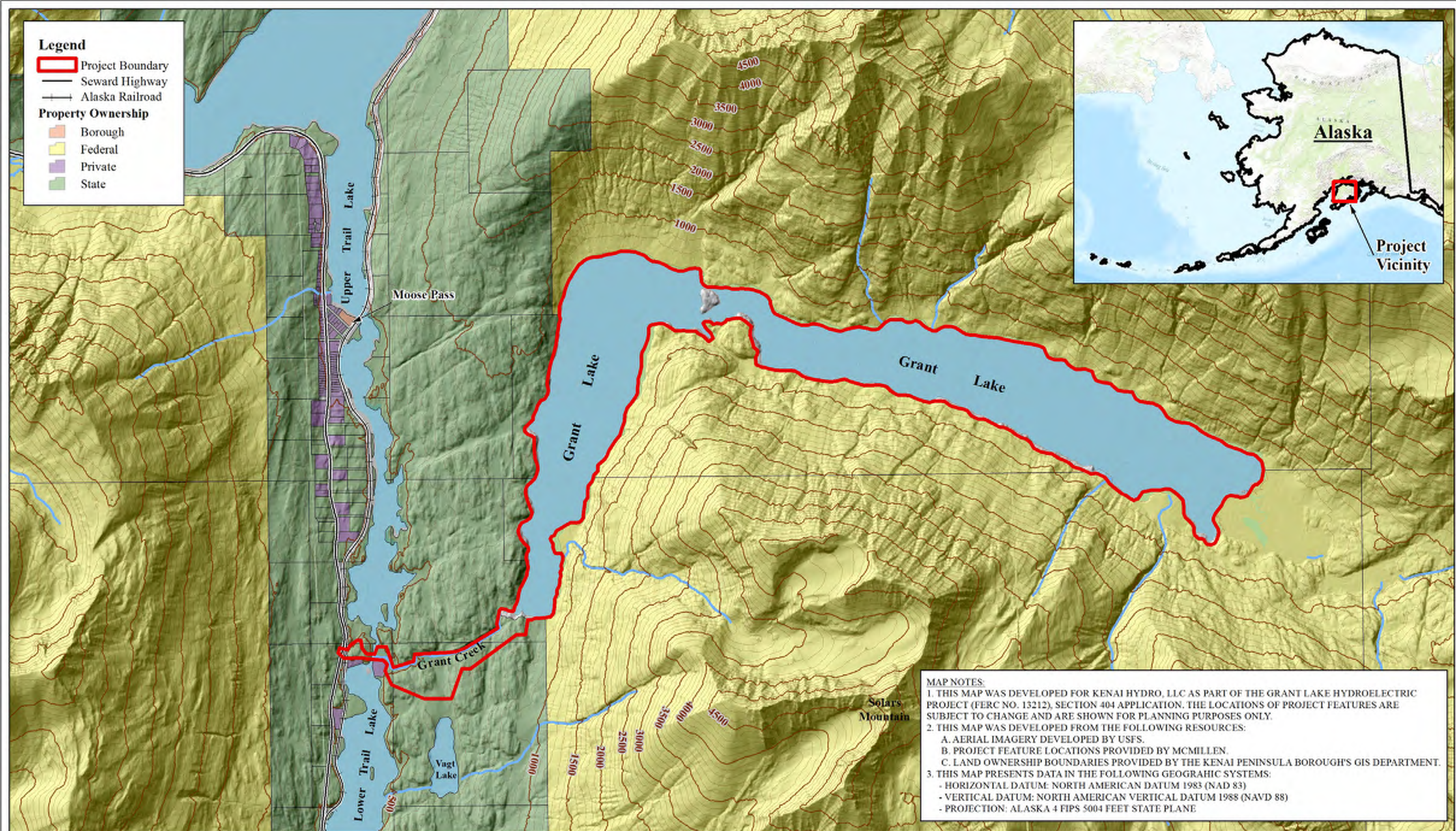
Figure 5. Fill impacts to wetlands and waters- East

Project Design Figures are presented in the Draft License Application (DLA) for the Grant Lake Hydropower Project (KHL 2015a) Exhibit F. The list of design figures is presented below.

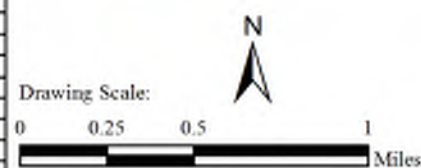
- F-1 Overall Project Site Plan and Drawing List
- F-2 Hydraulic Profile and Design Criteria
- F-3 Generation Facilities – Area Plan
- F-4 Intake Plan and Profile
- F-5 Intake Cofferdam Plan and Profile
- F-6 Intake Structure – Plan
- F-7 Intake Structure – Sections
- F-8 Tunnel – Plan and Profile
- F-9 Tunnel – Sections and Details
- F-10 Tunnel Portal – Plan, Profile, and Section
- F-11 Penstock – Plan and Profile
- F-12 Penstock – Sections and Details
- F-13 Powerhouse – Area Plan
- F-14 Powerhouse – Plan
- F-15 Powerhouse – Elevations
- F-16 Powerhouse – Sections
- F-17 Tailrace Channel – Plan and Profile
- F-18 Tailrace Channel – Sections
- F-19 Detention Pond – Plan and Section

³ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015a). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

F-20	Bypass Directional Boring Pipe – Plan and Profile
F-21	Intake Access Road – Plan and Profile
F-22	Powerhouse Access Road – Plan and Profile
F-23	Bridge – Plan, Elevation, and Section
F-24	Access Roads – Typical Details
F-25	Interconnection One-Line Diagram
F-26	Powerhouse One-Line Diagram
F-27	Transmission Line Route
F-28	Transmission Line Details



REV	DATE	BY	DESCRIPTION



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THE SONNA BUILDING
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Developed For:



GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

SECTION 404 APPLICATION

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

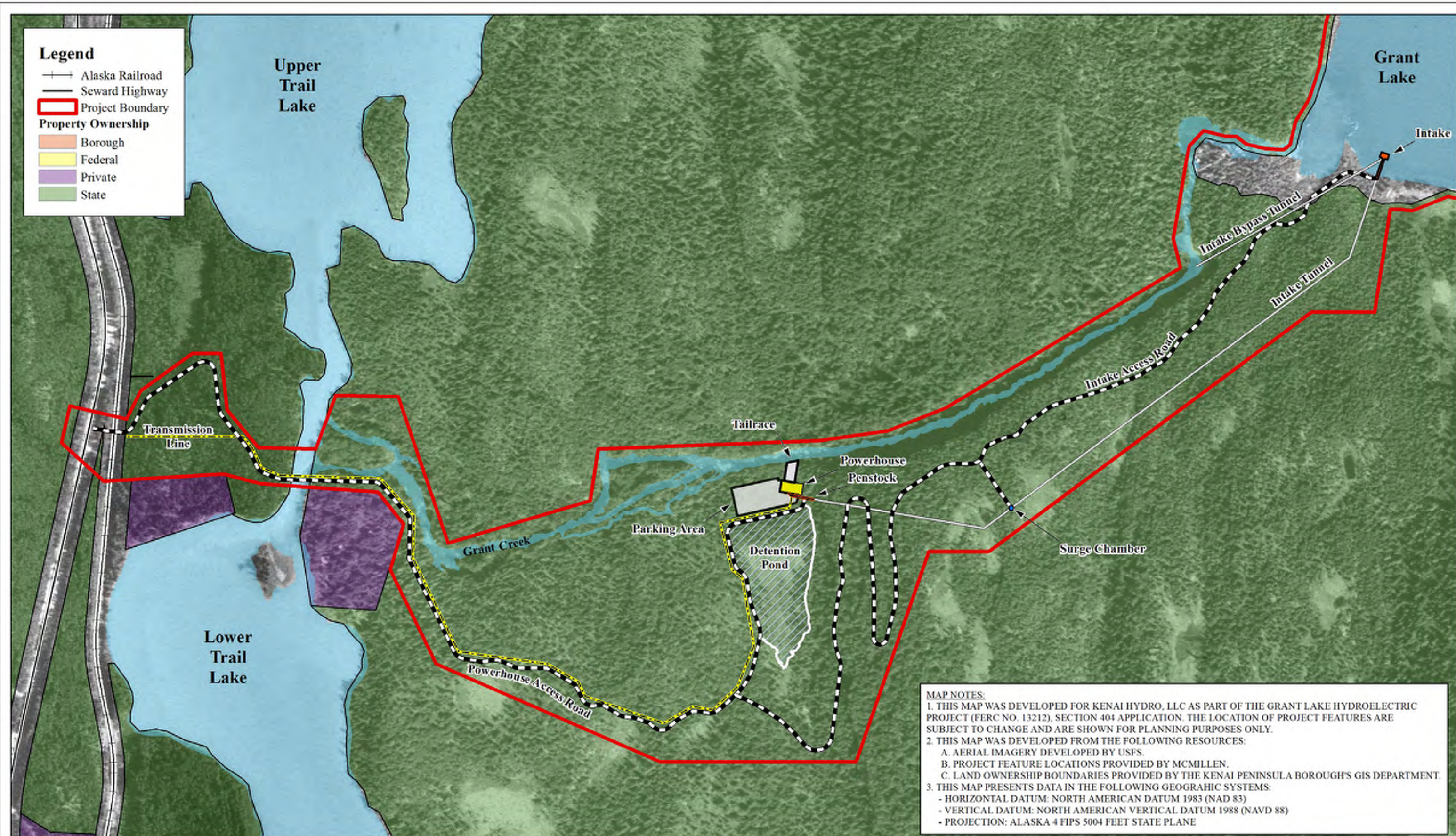
DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 5/4/2015

DRAWING

SCALE: 1:35,000



REV	DATE	BY	DESCRIPTION



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A "Toxstone Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

SECTION 404 APPLICATION

Figure 2
General Project Features And Facilities

DESIGNED: Jake Woodbury

DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 5/4/2015

SCALE: 1:5,000

MAP NOTES:
1. THIS MAP WAS DEVELOPED FOR KENAI HYDRO, LLC AS PART OF THE GRANT LAKE HYDROELECTRIC PROJECT (FERC NO. 13212), NATURAL RESOURCES STUDY DOCUMENTATION. THE LOCATION OF PROJECT FEATURES IS SUBJECT TO CHANGE AND IS SHOWN FOR PLANNING PURPOSES ONLY.
2. THIS MAP WAS DEVELOPED FROM THE FOLLOWING RESOURCES:
A. AERIAL IMAGERY DEVELOPED BY USFS.
B. WETLAND TYPES AND STUDY AREA BOUNDARIES WERE DRAWN BY ERM, INC 2013.
C. PROJECT FEATURE LOCATIONS PROVIDED BY KENAI HYDRO, LLC.
3. THIS MAP PRESENTS DATA IN THE FOLLOWING GEOGRAPHIC SYSTEMS:
- HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83)
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)
- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE

Legend

Seward Highway

Alaska Railroad

Access Roads

Transmission Line

Tunnel

2014 Wetland Assessment Area (WAA)

Project Fill

Fill in Wetlands/Waters

Wetlands and Waters

Hydrogeomorphic Type

Depressional

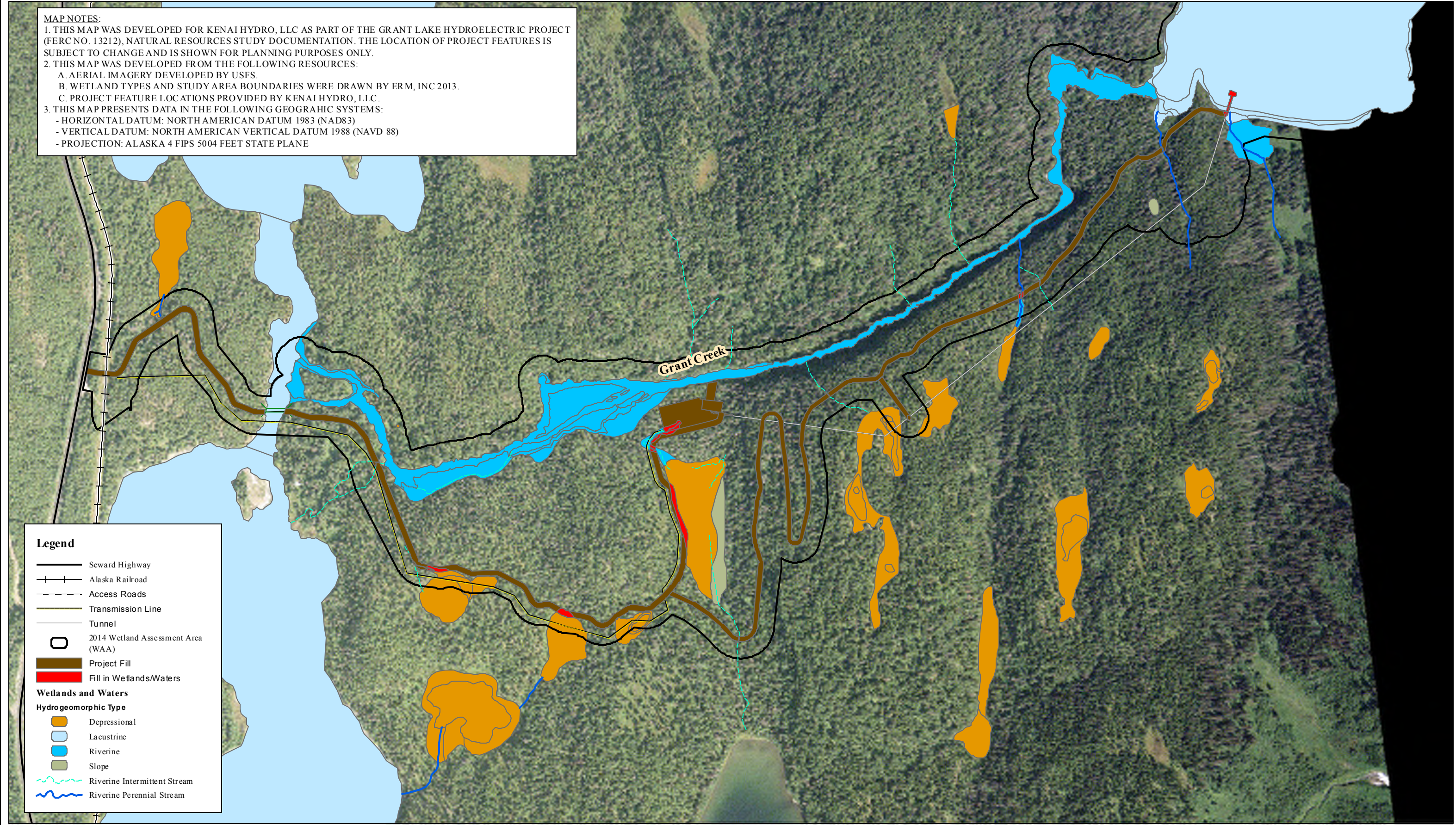
Lacustrine

Riverine

Slope

Riverine Intermittent Stream

Riverine Perennial Stream



REV	DATE	BY	DESCRIPTION	

N

Drawing Scale:

0

250

500

1,000

Feet

McMILLEN, LLC

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HEA

Homer Electric Association, Inc.

A "Touchstone Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

SECTION 404 APPLICATION

Figure 3
Wetland/Waters Fill Areas- Overview

DESIGNED M. Hjortsberg

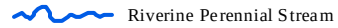
DRAWN M. Hjortsberg

CHECKED L. Shoutis

ISSUED DATE 3/5/2015

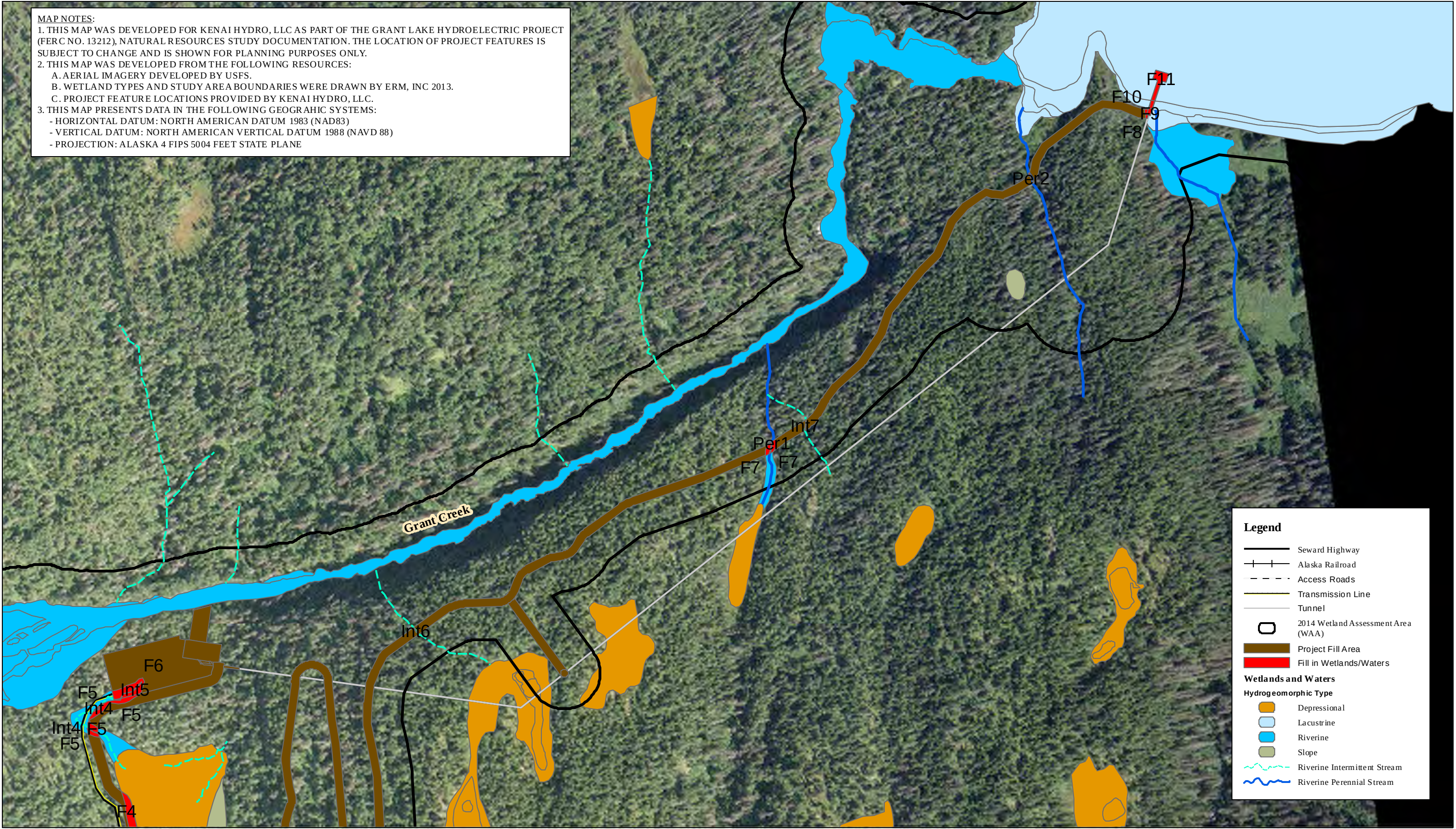
SCALE: 1"=5,500'

- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE



REV	DATE	BY	DESCRIPTION

MAP NOTES:
1. THIS MAP WAS DEVELOPED FOR KENAI HYDRO, LLC AS PART OF THE GRANT LAKE HYDROELECTRIC PROJECT (FERC NO. 13212), NATURAL RESOURCES STUDY DOCUMENTATION. THE LOCATION OF PROJECT FEATURES IS SUBJECT TO CHANGE AND IS SHOWN FOR PLANNING PURPOSES ONLY.
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- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)
- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE



Legend

Seward Highway

Alaska Railroad

Access Roads

Transmission Line

Tunnel

2014 Wetland Assessment Area (WAA)

Project Fill Area

Fill in Wetlands/Waters

Wetlands and Waters

Hydrogeomorphic Type

Depressional

Lacustrine

Riverine

Slope

Riverine Intermittent Stream

Riverine Perennial Stream

REV	DATE	BY	DESCRIPTION	

N

Drawing Scale:

0

250

500

1,000

Feet

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HEA

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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

SECTION 404 APPLICATION

Figure 5

Wetland/Waters Fill Areas- East

DESIGNED M. Hjortsberg

DRAWN M. Hjortsberg

CHECKED L. Shoutis

ISSUED DATE 12/19/2014

SCALE: 1:5,500

APPENDIX A

USACE General Best Management Practices (BMP) for Project in Waters of the U.S.

GENERAL BEST MANAGEMENT PRACTICE (BMP) FOR PROJECTS IN WATERS OF THE U.S.

BMPs are policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. Using BMPs does not exonerate an operator from permit conditions.

Work in Open Water (fresh and marine)

- Silt and sediment from excavation and fill activities may not enter waterbodies outside the project footprint. Where practicable, fill material must be free from fine material that is subject to erosion and suspension. Site preparation, excavation, fill placement, and construction activities must be conducted to prevent, minimize, and contain the erosion and suspension of fine material that could be carried off-site by surface runoff. If suspended material is evident in standing or flowing water outside the project footprint, appropriate control and containment measures must be applied. These measures may include slope stabilization, revegetation, filter fabric fences, straw bales, other effective filters or barriers, fiber matting, settling ponds, drainage control, trenches and water bars, waterproof covers over material piles and exposed soils, avoiding work during heavy precipitation, and other appropriate measures. Disturbed ground and exposed soil not covered with fill, structures, or appurtenances must be stabilized and revegetated in an appropriate and timely manner to minimize erosion and sedimentation, so that a durable vegetative cover is established and maintained.
- Project limits of authorized sites shall be clearly identified in the field (e.g., staking, flagging, silt fencing, use of buoys, existing footprint for maintenance activities, etc.) prior to clearing and construction to ensure avoidance of impacts to waters of the U.S. (including wetlands) beyond project footprints.
- Activities that include the construction and maintenance of intake structures must include adequate fish screening devices to prevent the entrainment or capture of fish.
- The authorized structure, pipe, or associated fill shall not impede flood flows. To the extent practicable, excavation equipment shall work from an upland site (e.g., the top of the bridge or culverted road crossing) to minimize adding fill into waters of the U.S. If it is not practicable to work from an upland site, excavation equipment must minimize disturbance to the channel or stream bank and bottom (other than the removal of accumulated sediments or debris).
- Silt fences, silt curtains, or other diversion or containment structures shall be installed to contain sediment and turbidity at the work site (a) parallel to and within 10 feet of the toe of any fill, or soil exposed within 25 feet of a standing or flowing waterbody, if the fill site has a downslope or surface connection to the waterbody; and (b) adjacent to any fill placed or soil exposed within a standing or flowing waterbody. All silt fences, curtains, and other structures must be installed properly and maintained in a functioning manner for the life of the construction period where fill material and

exposed soils might cause transport of sediment or turbidity beyond the immediate construction site.

- When conditions are favorable the use of trenchless technology is shall be employed for crossings of the aquatic environment.
- Activities in breeding areas for migratory waterfowl, spawning areas, or areas of concentrated shellfish populations must be avoided to the maximum extent practicable.
- Locate all extra work areas at least 50 feet away from water's edge and wetlands. Utilize previously disturbed areas before open ground and open ground before forested areas.
- For stream crossings, maintain adequate flow rates during the project to protect aquatic life, and prevent the interruption of existing downstream uses.
- Design, construct and maintain equipment bridges to maintain unrestricted flow and to prevent soil from entering the water body.
- Remove equipment bridges as soon as possible after completion of the project.
- Equipment shall not be stored, maintained or repaired in waters of the U.S.
- Excess dredged or excavated material that is either unsuitable or not used as backfill shall be disposed at an upland disposal site.
- Spoil, debris, piling, cofferdams, construction materials, and any other obstructions resulting from or used during construction shall be removed upon project completion.
- Remove the dewatering structures as soon as possible after the completion of dewatering activities.
- When possible, work should be conducted during periods of no-flow or low-flow.
- To limit the time required for construction at a stream crossing, work areas on both sides of the stream will be prepared prior to construction of the actual crossing.
- Move stranded fish found in the dewatered channel downstream.
- For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the water body channel.
- Design to adequately transfer streamflow volumes around the work area when there are no concerns about sensitive species passage.

- Construct dams with materials that prevent sediment and other pollutants from entering the water body (e.g., sandbags or clean gravel with plastic liner).
- The stream bed and banks will be backfilled and restored to the pre-existing course, condition, capacity and location.
- To the maximum extent practicable backfill material shall consist of the excavated material and shall be returned to the hole in the same place on the vertical stratum from which it was excavated. As a contingency, use clean gravel or native cobbles for the upper 1-foot of trench backfill in all water bodies that contain fisheries.
- When velocity allows and prior to starting work, a silt fence or floating silt curtain shall be erected downstream or around the crossing. Where required, a fish barrier of netting may be erected, both upstream and downstream of the crossing, to prevent fish from entering the work area.
- Any stream bank, lake shore, or coastline affected by the work shall be restored and stabilized.
- Directional boring vaults/junction boxes or pads will not be constructed within 100 feet (measured from OHW) of anadromous fish streams.
- Horizontal directional drilling pilot, entrance, and exit holes must be the minimum necessary, and where a stream crossing is involved, must be set back from the stream bank by at least 100 feet. Excavated materials and drilling muds must be stockpiled on non-wetland, where available. Under non-frozen conditions fabric must be placed beneath all materials stockpiled in wetlands.
- Wooden structures in contact with water shall be treated with preservatives approved for use in aquatic and marine environments through the US EPA registration process.
- Wood preservative products shall be installed in accordance with the “Best Management Practices for the Use of Treated Wood in Aquatic and Other Sensitive Environments” August 2006, or the most current version including published amendments, published by the Western Wood Preservers Institute (WWPI) (www.wwpinstitute.org) including the standards set forth by the American Wood-Preservers Association (AWPA) (www.awpa.com), the Timber Piling Council (TPC) (www.timberpilingcouncil.org), and/or the American Lumber Standards Committee as appropriate.

Work in Wetlands

- Silt and sediment from excavation and fill activities may not enter wetlands outside the project footprint. Where practicable, fill material must be free from fine material that is subject to erosion and suspension. Site preparation, excavation, fill placement, and construction activities must be conducted to prevent, minimize, and contain the erosion and suspension of fine material that could be carried off-site by surface

runoff. If suspended material is evident in standing or flowing water outside the project footprint, appropriate control and containment measures must be applied. These measures may include slope stabilization, revegetation, filter fabric fences, straw bales, other effective filters or barriers, fiber matting, settling ponds, drainage control, trenches and water bars, waterproof covers over material piles and exposed soils, avoiding work during heavy precipitation, and other appropriate measures. Disturbed ground and exposed soil not covered with fill, structures, or appurtenances must be stabilized and revegetated in an appropriate and timely manner to minimize erosion and sedimentation, so that a durable vegetative cover is established and maintained.

- Project limits of authorized sites shall be clearly identified in the field (e.g., staking, flagging, silt fencing, use of buoys, existing footprint for maintenance activities, etc.) prior to clearing and construction to ensure avoidance of impacts to waters of the U.S. beyond project footprints.
- Silt fences, silt curtains, or other diversion or containment structures shall be installed to contain sediment and turbidity at the work site (a) parallel to and within 10 feet of the toe of any fill, or soil exposed within 25 feet of a standing or flowing waterbody, if the fill site has a downslope or surface connection to the waterbody; and (b) adjacent to any fill placed or soil exposed within a standing or flowing waterbody. All silt fences, curtains, and other structures must be installed properly and maintained in a functioning manner for the life of the construction period where fill material and exposed soils might cause transport of sediment or turbidity beyond the immediate construction site.
- Construction equipment, particularly the width of the excavating bucket head, should be limited to the minimum size necessary to complete the work.
- The load of heavy equipment shall be dispersed so that the bearing strength of the soil is not exceeded. Suitable methods to accomplish this include, but are not limited to, working in frozen or dry ground conditions, employing mats when working in wetlands or mudflats and using tracked rather than wheeled vehicles. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the work site.
- The work shall not adversely alter existing hydrology of waters of the U.S., including wetlands. The methods (e.g. use of impervious material, structures such as trench plugs, avoiding extensive gravel layering when backfilling, etc.) chosen to prevent the draining of wetlands shall be drawn onto the constructions plans and clearly labeled.
- Activities in breeding areas for migratory waterfowl, spawning areas, or areas of concentrated shellfish populations must be avoided to the maximum extent practicable.

- Locate all extra work areas at least 50 feet away from water's edge and wetlands. Utilize previously disturbed areas before open ground and open ground before forested areas.
- Remove the cut vegetation from the wetland for disposal.
- Equipment shall remain inside the identified project limits.
- Equipment shall not be stored, maintained or repaired in waters of the U.S.
- Excess dredged or excavated material that is either unsuitable or not used as backfill shall be disposed at an upland disposal site.
- Spoil, debris, piling, cofferdams, construction materials, and any other obstructions resulting from or used during construction shall be removed upon project completion.
- Remove the dewatering structures as soon as possible after the completion of dewatering activities.
- Temporary fill in wetlands shall be placed on geotextile fabric which is laid on the existing wetland grade.
- Topsoil and organic surface material such as root mats shall be stockpiled separately from overburden and returned to the surface of the restored site.
- Natural drainage patterns shall be maintained to the extent practicable by the installation of culverts in sufficient number and size to prevent ponding, diversion, or concentrated runoff that would result in adverse impacts to adjacent wetlands and other fish and wildlife habitats.
- Fill for the individual driveways, home pad, and septic systems shall not be placed in wetlands until the lot is sold or the applicant proposes to use a lot for a personal residence, a rental unit, or a model unit.

Restoring Disturbed Areas (Open Water and Wetlands)

- Areas disturbed during project construction must be revegetated as soon as possible, preferably in the same growing season as the disturbance. Erosion protection shall be provided and remain in place until the soil is permanently stabilized.
- In peat wetlands, systematically removing the natural vegetative mat (with root masses intact) prior to construction, storing it in a manner to retain viability (usually frozen or hydrated), then replacing it after re-contouring the ground following construction, with final contours within one foot of adjacent undisturbed soil surfaces after one growing season and one freeze/thaw cycle. For minor utility projects where

no imported bedding or backfill material is used (e.g., "plowed in" cables or small utility lines installed with ditch-witches), simple restoration to pre-work contours and appropriate revegetation shall suffice.

- Restoration and revegetation of streambank and shoreline habitat should utilize the most up-to-date bioengineering techniques and use of biodegradable materials when feasible and practicable (i.e. Streambank Revegetation and Protection: A Guide for Alaska (Muhlberg and Moore 1998)). Techniques may include, but are not limited to, brush layering, brush mattresses, live siltation, and use of jute matting and coir logs to stabilize soil and re-establish native vegetation.

***Grant Lake Hydroelectric Project
Jurisdictional Determination Report***

In Support of a Request for a Preliminary Jurisdictional Determination

DRAFT



**Submitted to
Department of the Army
United States Army Corps of Engineers
Alaska Region**

**Submitted by
Kenai Hydro, LLC**

May 2015

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Acronyms and Abbreviations

ADNR	Alaska Department of Natural Resources
CFR.....	Code of Federal Regulations
cfs.....	cubic feet per second
Corps Manual.....	1987 Corps of Engineers Wetland Delineation Manual
CWA	Clean Water Act
DP	Wetland determination point
FERC.....	Federal Energy Regulatory Commission
ft	feet
GIS	Geographic Information System
GPS	Global Positioning System
HEA	Homer Electric Association
HGM	hydrogeomorphic
JD	jurisdictional determination
KHL	Kenai Hydro, LLC
MW	megawatt
NWI.....	National Wetland Inventory (USFWS)
OP	Wetland observation point
Project	Grant Lake Hydroelectric Project (FERC No. 13212)
Regional Supplement.....	Alaska Regional Supplement to the Corps of Engineers Wetland Delineation Manual
RPW	relatively permanent waters
RPWWD	wetlands that directly abut relatively permanent waters
Section 404.....	Section 404 of the Clean Water Act
TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers

1 INTRODUCTION

Kenai Hydroelectric (KHL), a subsidiary of Homer Electric Association (HEA), is proposing the Grant Lake Hydroelectric Project (Project), a new 5-megawatt (MW) hydroelectric facility on Grant Lake and Grant Creek near Moose Pass, Alaska (Figure 1)¹. The purpose of this jurisdictional determination (JD) report is to identify wetlands and waters within the proposed Project area that are within the jurisdiction of Section 404 of the Clean Water Act (CWA) as interpreted by the United States Army Corps of Engineers (USACE), Alaska District. These jurisdictional wetlands and waters require authorizations from USACE prior to development activities in the form of a CWA Section 404 permit for the discharge of dredged or fill material into waters of the U.S. (including wetlands). Section 404 jurisdiction includes all “waters of the U.S.” as defined in 33 CFR Part 328.3(a)(1 – 8).

Wetlands are defined for regulatory purposes under the CWA as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Waters are defined as any non-vegetated area with a bed and bank, including intermittent, ephemeral, or perennial streams, rivers, or standing water (lakes and ponds).

This jurisdictional determination report presents an overview of the 2013 wetlands and waters delineation and the proposed jurisdictional determination based on the wetland and waters delineation. A map set of jurisdictional determination figures is presented in Appendix A.

The 2013 wetland and waters delineation is presented in more detail in a separate report, *Grant Lake Project Terrestrial Resources Final Report(Botanical Resources Section, Section 4)*(KHL 2014a), referred to as the “Terrestrial Resources Report”. The Terrestrial Resources Report includes the following material for the wetlands and waters within the Project area: 1) inventory and mapping of wetland and waters (delineation), 2) functional assessment and categorization, and 3) a qualitative assessment of potential Project impacts to wetlands and waters.

1.1 Project Description

The proposed Project would divert water from Grant Lake and deliver the flow to a powerhouse located near the outlet of the existing Grant Creek natural, incised rock canyon. A detailed Project description, including the dimensions and location of Project components is presented in Exhibit A of the Draft License Application (KHL 2015a), and the Section 404 Application (KHL2015b).

The Project would include the following major components:

- A 110-foot clear span bridge across the Trail Lake Narrows;

¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015a). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

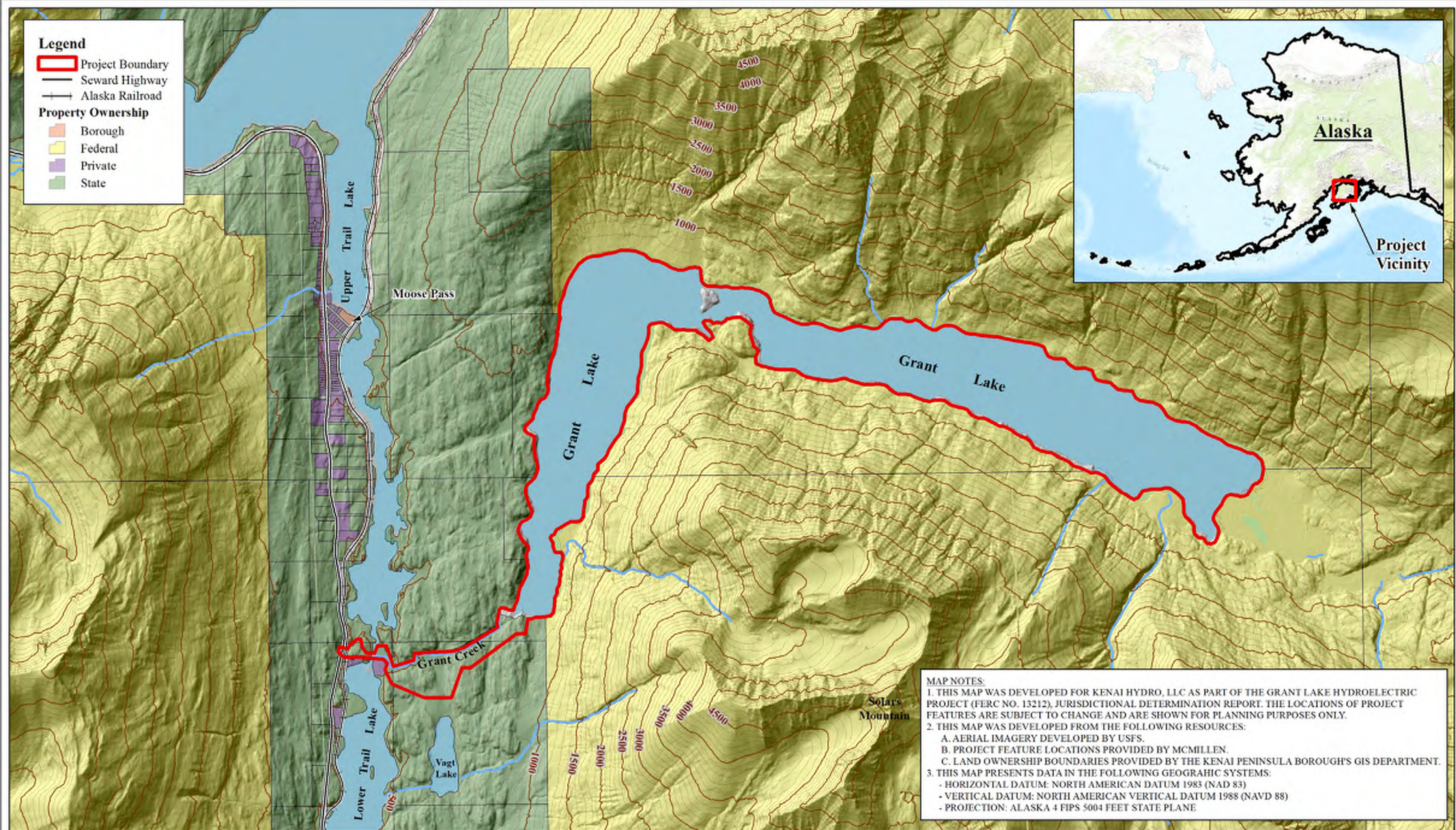
- Access roads:
 - Powerhouse access road extending from the Seward Highway, approximately 1 mile to the powerhouse located on the south side of Grant Creek; and
 - Intake access road, extending from the powerhouse road for approximately 0.9 mile to the outlet of Grant Lake; and
 - Spur road from intake access road to surge chamber.
- An intake structure in Grant Lake.
- A tunnel extending from the lake intake to just east of the powerhouse.
- A powerhouse with two turbines providing an anticipated combined 5-MW output.
- Maximum design flow of approximately 385 cubic feet per second (cfs).
- A detention pond and tailrace.
- An overhead transmission line.

1.2 Study Area

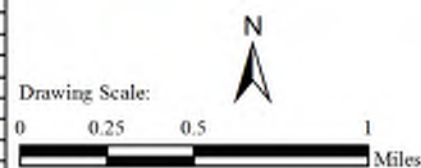
The study area used for the jurisdictional assessment is the “revised wetland assessment area,” which is nearly identical to the 2013 wetland and waters assessment area detailed in the Terrestrial Resources Report (KHL 2014a) and summarized below. The only difference is that the assessment area was revised based on changes in the Project design to include 1) the realigned intake access road to include new switchbacks, and 2) the surge chamber and access road. Appendix A, Figure 1 provides an illustration of the wetland assessment area as part of the jurisdictional determination map set.

The wetland assessment area focused on those areas where the Project has potential to have direct or indirect primary and/or secondary impacts on wetlands or waters, including surface water features such as lakes, ponds, creeks, and drainages. The wetland assessment area includes the following areas:

- A 100-foot buffer around all proposed Project features;
- A 100-foot buffer to the north and south side of Grant Creek to capture any wetlands or waters that may be affected by a future operational flow regime in Grant Creek; and
- The area within the estimated operational minimum and maximum lake level fluctuations around Grant Lake to capture possible hydrological influences due to changes in lake level fluctuations.



REV	DATE	BY	DESCRIPTION



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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 5/4/2015

DRAWING

SCALE: 1:35,000

2 METHODS

2.1 Wetland and Waters Delineation

A detailed description of the wetland delineation methods, as well as wetland delineation forms and field notes, are presented in the Terrestrial Resources Report (KHL 2014a). A summary is provided here.

The wetlands and waters delineation was completed in three steps: 1) review of existing data and GIS-based pre-field desktop mapping; 2) field-based groundtruthing and delineation of wetlands and waters; and 3) post-field GIS-based editing of the pre-field mapping using field data.

Pre-field mapping consisted of GIS-based mapping of wetlands and waters (as polygons) throughout the wetland assessment area (Appendix A, Figure 1), and assigning National Wetlands Inventory (NWI) (Cowardin et al. 1979) and Brinson (1993) hydrogeomorphic (HGM) position classification codes. The preliminary wetland map was developed in ArcGIS using the following data sources:

- 2010 wetland and waters determinations (KHL 2011);
- 2013 wetland and waters mapping (KHL 2014a);
- Aerial photography;
- Elevation contours (4-foot vertical resolution); and
- USFWS NWI mapping (NWI 2013).

In the field, wetland determinations were performed according to the 1987 Corps of Engineers Wetland Delineation Manual (Corps Manual) (USACE 1987) and the Alaska Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region (Regional Supplement; USACE 2007a). Waters were mapped using GPS points in the field, with subsequent editing in GIS using aerial photography and data collected by the Project aquatic habitat mapping study team (KHL 2014b) for Grant Creek side channel areas. A total of 41 field determination points (DP) (24 wetland DPs and 17 upland DPs) and 82 observation points (OP) were collected within the wetland assessment area in 2013. At each field DP, wetland scientists completed a USACE wetland determination form, took representative site photographs, documented the hydrogeomorphic position of the wetland location, and documented general field observations. In addition, the location of wetland DPs representative wetland/upland boundary points and other notable features were recorded with a Trimble GeoXH 6000 series GPS unit. Similar information was collected at OPs; however, formal delineation datasheets were not filled out for these locations.

Following the field-based wetland delineation, a GIS-based desktop analysis was then used to refine and complete the wetland and waters mapping effort. This evaluation included an analysis of DP data, OPs, existing vegetation mapping, NWI mapping, aerial photographs, and surface hydrology data. Wetland boundaries were refined using GPS boundary points and corresponding vegetation cover signatures in aerial photographs. NWI class codes (Cowardin et al. 1979), hydrologic modifiers, and HGM classes were also edited through this process.

2.2 Jurisdictional Determination Methods

The review of jurisdictional status was performed in consultation with federal guidance, including *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States (June 5, 2007)*; *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook and Approved Jurisdictional Determination Form, May 30, 2007* (USACE 2007b); and *SPN 2010-45 (January 29, 2010)* (USACE 2010).

Per these guidance documents, USACE will assert jurisdiction over the following categories of water bodies:

- Traditional Navigable Waters (TNWs);
- All wetlands adjacent to TNWs;
- Non-navigable tributaries to TNWs that are relatively permanent waters (RPW)²; and
- Wetlands that directly abut RPWs³ (RPWWD).

Agencies will also assert jurisdiction over every water body that is not an RPW if that water body is determined to have a significant nexus with a TNW. These include the following water bodies:

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally;
- Wetlands adjacent to such tributaries; and
- Wetlands adjacent to but that do not directly abut an RPW (RPWWN).

To determine the potential JD categories for wetlands and waters within the assessment area, all relevant data were reviewed to determine connections between assessment area wetlands, Project area RPW's, and TNW's. TNWs were determined through review of the Alaska Department of Natural Resources (ADNR) Navigable Waters website mapping tool (ADNR 2014). Data sets reviewed included: all of the data layers used as part of the wetland and waters delineation (presented above) and the ADNR Navigable Waters website mapping tool (ADNR 2014). Data were evaluated beyond the assessment area to determine connections to TNWs.

² RPWs are tributaries that typically flow year-round or have continuous flow at least seasonally (USACE 2007a).

³ A wetland abuts a tributary if it is not separated from the tributary by uplands, a berm, dike or similar feature (USACE 2007a).

3 RESULTS

Results of the wetland and waters delineation (summarized) and the JD are presented below. In addition, an electronic version of the final wetland and waters mapping, and the preliminary jurisdictional status will be provided to the USACE as part of this report as a shapefile for use in ArcGIS, to assist with the jurisdictional determination as suggested in *SPN 2010-45* (USACE 2010).

3.1 Wetlands and Waters Delineation

A detailed description of the wetland and waters delineation results, as well as delineation forms, field notes, and detailed figures of the final wetland and waters mapping are presented in the Terrestrial Resources Report (KHL 2014a). A summary is provided here.

The field-based wetland delineation and waters mapping was conducted from July 16 through July 26, 2013, within the wetland assessment area defined in Appendix A, Figure 1. Weather conditions during the delineation were warm and dry; therefore, when appropriate, the delineators erred on the conservative side and assumed wetland hydrology could be present during cooler/wetter conditions.

Table 1 provides a summary of acreage and percent cover for each primary vegetation and surface water community. Tributary streams that were too narrow (i.e., <15 feet wide) to map as polygons are reported in linear feet. Table 2 provides a description of, and details acreages and linear feet by NWI and HGM type, of all mapped wetlands and waters. Note that as described in the Study Area, Section 1.2 of this JD report, the wetland assessment area has been revised since the publication of the Terrestrial Resources Report to reflect Project changes. The revised wetland assessment area is presented in Appendix A, Figure 1. This change resulted in very slight increases in the acreage of three wetland types, specifically around the surge chamber access road; for reference these acreages are presented in italics in Table 2. All other mapped areas and lines are the same as were presented in Table 4-3.1 of the Terrestrial Resources Report (KHL 2014a).

Vegetated wetland communities mapped within the Grant Lake wetland assessment area include herbaceous dominated, scrub-shrub dominated, and forested dominated wetlands associated with lacustrine, slope, and riparian areas. Waters mapped within the wetland assessment area include intermittent and perennial small tributary streams, Grant Creek, Inlet Creek, Grant Lake, the Trail Lake Narrows, and ponds. Additional details of the wetland and waters delineation are presented in the Terrestrial Resources Report (KHL 2014a), including a description of the wetland and waters types delineated within the wetland assessment area. Figures E.4-69 through E.4-74 of the Draft License Application (DLA) present the most up to date illustrative map set of the delineated wetlands and waters (KHL 2015a).

Table 1. Wetlands and waters acreages in revised 2014 wetland assessment area – summary.

	Revised 2014 Wetland Assessment Area	
Wetland Communities	Acres	% Coverage
Herbaceous Wetlands	5.68	15%
Herbaceous Wetland / Floodplain Forest & Scrub	3.11	8%
Scrub-Shrub Wetlands	20.92	54%
Scrub-Shrub Wetland / Floodplain Forest & Scrub	7.94	21%
Forested Wetlands	0.89	2%
Vegetated Wetland Subtotals	38.5	
Waters	Acres	% Coverage
Open Water - Grant Lake	1649.10	99%
Open Water - Trail Lake Narrows	1.02	0%
Open Water - Ponds	0.02	0%
Riverine- Grant Creek main and side channels	6.74	0%
Riverine- Outwash fans and areas of Inlet Creek channel	3.07	0%
Unvegetated Water Subtotals	1660.0	
WETLAND & WATER TOTALS	1698.5	
Non-Vegetated Waters¹	Feet	
Small Streams (perennial)	8,303	61%
Small Streams (intermittent)	5,279	39%
FEET TOTAL	13,583	
1: Streams that were mapped as lines rather than polygons due to width		

Table 2. Wetlands and waters within the 2014 wetland assessment area - detailed.

Wetland Cover Type	Hydrogeomorphic Position	NWI Class/ Subclass ^a	NWI Hydro Modifier ^b	Revised 2014 Wetland Assessment Area (Acres)	Vegetation Description ^c
Herbaceous Wetland	Depressional	PEM1	B, E, F, H	0.13	Palustrine emergent wetlands with saturated hydrologic conditions occurring throughout or within portions of Project area depressional features. Dominated by Drosera rotundifolia, Carex pauciflora, Rubus chamaemorus, Calamagrostis canadensis, Equisetum arvense. Wetland Points: OP55, (HDR 113, 116, 118,123); similar to DP14 but fewer scrub shrub.
		PEM1/SS1	E	0.08	Palustrine emergent and deciduous scrub-shrub mixed wetlands with saturated and seasonally flooded conditions occurring in a single depressional area within the transmission corridor west of Trail Lk. Dominated by Equisetum fluviatile, Comarum palustre, Sanguisorba canadensis, Calamagrostis canadensis, Salix barclayi, Betula glandulosa, Picea glauca. Wetland Points: DP14
	Lacustrine	PEM1	B, E, F, H	4.26	Palustrine emergent wetlands with hydrologic conditions ranging from saturated, seasonally flooded, semipermanently flooded, to permanently flooded typically occurring as a narrow fringe along portions of the Grant Lake shoreline. Dominated by Podagrostis aequivallis, Poa palustris, Carex lenticularis, Carex utriculata, Calamagrostis canadensis, Equisetum arvense, Equisetum fluviatile, Carex aquatilis, Deschampsia caespitosa, Sanguisorba canadensis. Wetland Points: DP10, DP27, DP33, OP59, OP61, OP62, OP65, OP67, OP82
		PEM1/SS1	B, C, E	1.20	Palustrine emergent and deciduous scrub-shrub mixed wetlands with hydrologic conditions ranging from saturated to seasonally flooded occurring typically as a narrow fringe along portions of the Grant Lake and Trail Lake shoreline. Dominated by Chamerion latifolium, Calamagrostis canadensis, Comarum palustre, Equisetum arvense, Sanguisorba canadensis, Alnus viridis, Betula glandulosa, Populus balsamifera, Salix alaxensis, Salix barclayi, Salix sitchensis. Wetland Points: DP01, DP35 (HDR107), OP60, OP68, OP69
Herbaceous Wetland Subtotal:				5.68	
Herbaceous Wetland / Floodplain Forest & Scrub	Riverine	PEM1	B, C, E	0.61	Palustrine emergent wetlands with hydrologic conditions ranging from saturated to seasonally flooded occurring as narrow fringe along stream channels or as part of a complex wetland-upland mosaic complex associated with Grant Creek side channels. Dominated by Calamagrostis canadensis, Carex sitchensis, Equisetum arvense, Sanguisorba canadensis. Wetland Points: DP25, OP43, OP51, OP74
		PEM1/SS1	C	2.50	Palustrine emergent and deciduous scrub-shrub mixed wetlands with seasonally flooded hydrologic conditions occurring in micro-topo lows within the complex riparian wetland-upland mosaic associated with the Grant Creek side channels. Dominated by Calamagrostis canadensis, Equisetum arvense, Athyrium felix-femina, Alnus viridis, Salix commutata. NOTE: Wetlands account for only 20% of the acreage associated with this mosaic community, the remaining 80% is upland. Wetland Points: DP23.
Herbaceous Wetland / Floodplain Forest & Scrub Subtotal:				3.11	

Table 2. Continued....

Wetland Cover Type	Hydrogeomorphic Position	NWI Class/ Subclass ^a	NWI Hydro Modifier ^b	Revised 2014 Wetland Assessment Area (Acres)	Vegetation Description ^c
Scrub-Shrub Wetland	Depressional	PSS1	B, E	0.21	Palustrine deciduous scrub-shrub wetlands with saturated to seasonally flooded hydrologic conditions occurring throughout or within portions of Project area depressional features Dominated by Ledum decumbens, Betula glandulosa, Vaccinium uliginosum. Wetland Points: (HDR129); similar to DP22
		PSS1/3	B, E	0.31	Palustrine deciduous and broadleaved evergreen scrub-shrub wetlands with saturated conditions occurring throughout or within portions of Project area depressional features. Typically dominated by Rubus chamaemorus, Cornus canadensis, Empetrum nigrum, Betula glandulosa, Andromeda polifolia, Ledum decumbens. Wetland Points: None, similar vegetation to DP17
		PSS1/EM1	B, E	2.95	Palustrine deciduous scrub-shrub and emergent mixed wetlands with saturated to seasonally flooded hydrologic conditions occurring throughout or within portions of Project area depressional features, including the proposed detention pond area south of Grant Creek. Dominated by Picea glauca, Salix barclayi, Equisetum fluviatile, and Calamagrostis canadensis. Wetland Points: DP22
		PSS3/EM1	B	0.60	Palustrine broadleaved evergreen scrub-shrub and emergent mixed wetlands with saturated hydrologic conditions typically occurring within portions of Project area depressional features. Dominated by Andromeda polifolia, Betula glandulosa, Empetrum nigrum, Carex pauciflora, Rubus chamaemorus, Equisetum arvense. Wetland Points: DP17, DP20; (HDR127)
		PSS4	B	0.00	Palustrine needle leaved evergreen scrub-shrub wetland with saturated hydrologic conditions occurring in a single depressional feature south of the transmission corridor on the west side of Trail Lake. Outside of 2013 wetland assessment area, plant species not documented. Wetland Points: None, located outside of 2013 wetland assessment area
		PSS4/3/EM1	B	0.40	Palustrine needle leaved and broadleaved evergreen scrub-shrub and emergent mixed wetland with saturated hydrologic conditions occurring in a depressional feature within the transmission corridor. Dominated by Picea glauca, Rubus chamaemorus, Andromeda polifolia, Betula glandulosa, and Ledum decumbens. Wetland Points: DP19 (HDR125)
	Lacustrine	PSS1	C, E	8.21	Palustrine deciduous scrub-shrub wetlands with saturated or seasonally flooded hydrologic conditions occurring as a narrow fringe along portions of the Grant Lake shoreline. Dominated by Salix alaxensis, Salix pulchra, Salix barclayi, Alnus viridis. Wetland Points: OP12, OP15, OP80; (HDR106)
		PSS1/EM1	B, C, E	7.24	Palustrine deciduous scrub-shrub and emergent mixed wetlands with saturated and seasonally flooded hydrologic conditions occurring typically as a narrow fringe along portions of the Grant Lake shoreline, or as larger wetlands at the Grant Lake inlet or outlet. Dominant plant species include Salix sitchensis, Salix alaxensis, Salix barclayi, Alnus viridis, Betula glandulosa, Carex hyemale, Carex canescens, Carex lenticularis, Equisetum arvense, Equisetum fluviatile, Calamagrostis canadensis, Chamerion latifolium, Sanguisorba canadensis. Wetland Points: DP03, DP04, DP06, DP08, DP29, DP31, OP81
	Riverine	PSS1	C	0.03	Palustrine deciduous scrub-shrub wetlands with seasonally flooded hydrologic conditions associated with small drainages within the Project area. Dominated by Salix sitchensis, Salix alaxensis, Alnus viridis, Sanguisorba canadensis, Rubus chamaemorus, Calamagrostis canadensis, Cornus canadensis. <i>Wetland Points: OP58</i>
		PSS1/EM1	C, E	0.97	Palustrine deciduous scrub-shrub and emergent mixed wetlands with saturated to seasonally flooded hydrologic conditions associated with small drainages within the Project area. Dominated by Salix pulchra, Salix barclayi, Alnus viridis, Tsuga mertensiana, Equisetum arvense, Equisetum fluviatile, Calamagrostis canadensis, Agrostis mertensii. <i>Wetland Points: DP12, DP39</i>
Scrub-Shrub Wetland Subtotal:				20.92	

Table 2. Continued....

Wetland Cover Type	Hydrogeomorphic Position	NWI Class/ Subclass ^a	NWI Hydro Modifier ^b	Revised 2014 Wetland Assessment Area (Acres)	Vegetation Description ^c
Scrub-Shrub Wetland / Floodplain Forest and Scrub	Riverine	PSS1	A, B, C, E	5.67	Palustrine deciduous scrub-shrub wetlands with hydrologic conditions ranging from temporarily flooded, saturated, to seasonally flooded associated with Project area active floodplain and outwash fan features. Dominated by Salix sitchensis, Salix alaxensis, Alnus viridis, Populus balsamifera, Calamagrostis canadensis, Equisetum hyemale. <i>Wetland Points: DP02, DP09</i>
		PSS1/EM1	C, E	2.22	Palustrine deciduous scrub-shrub and emergent mixed wetlands with saturated to seasonally flooded hydrologic conditions occurring in micro-topo lows within the complex riparian wetland-upland mosaic associated with the Grant Creek side channels. Dominated by Alnus viridis, Salix commutata, Calamagrostis canadensis. NOTE: Wetlands account for only 10% of the acreage associated with this mosaic community, the remaining 90% is upland. <i>Wetland Points: DP24, OP73, OP74</i>
		PSS1/FO1	C	0.04	Palustrine deciduous scrub-shrub and deciduous forested mixed wetlands with seasonally flooded hydrologic conditions associated riparian fringe along Grant Creek. Dominated by Salix sitchensis, Salix alaxensis, Alnus viridis, Betula papyrifera. <i>Wetland Points: Documented on field map only; similar to DP24 but with more mature deciduous trees</i>
Scrub-Shrub / Floodplain Forest & Scrub Wetland Subtotal:				7.94	
Forested Wetland	Slope	PFO4	B	0.81	Palustrine needle leaved evergreen forested wetland with saturated hydrologic conditions; within the Project area this includes one wetland which is associated with the west-facing slope adjacent to the detention pond. Dominated by Picea glauca, Salix barclayi, Betula papyrifera, and Agrostis stolonifera. <i>Wetland Points: OP40 (HDR121)</i>
		PFO4/EM1	B	0.08	Palustrine needle leaved evergreen forested and emergent mixed wetland with saturated hydrologic conditions associated with a seasonal drainage on a north-facing slope. Dominated by Salix sitchensis, Salix alaxensis, Alnus viridis, Tsuga mertensiana, Rubus chamaemorus, Cornus canadensis. <i>Wetland Points: DP37, (HDR 110)</i>
Forested Wetland Subtotal:				0.89	
Open Water	Lacustrine	L1UB (Grant Lk.)	H	1648.20	Unvegetated deep water (greater than 6.6 ft deep) of Trail Lake and Grant Lake. <i>Wetland Points: None</i>
		L2UB (Grant Lk.)	H	0.82	Unvegetated shallow water (less than 6.6 ft deep) associated with the outlet of Grant Lake. <i>Wetland Points: None</i>
		L2US (Grant Lk.)	C	0.09	Unvegetated shallow water (less than 6.6 ft deep) associated with the outlet of Grant Lake. <i>Wetland Points: None</i>
		Total Grant Lk.		1649.10	
		L1UB (Trail Lk. Narrows)	H	1.02	Unvegetated deep water (greater than 6.6 ft deep) of Trail Lake Narrows. <i>Wetland Points: None</i>
Open Water Subtotal:				1650.12	
Pond	Depressional	PUB	H	0.02	Shallow ponds (less than 20 acres in size) associated with depressional features within the Project area. All were outside the original 2013 wetland assessment area. <i>Wetland Points: None, located outside original 2013 wetland assessment area</i>
Pond Subtotal:				0.02	
Non-Vegetated	Riverine	R2UB (Grant Cr.)	H	6.74	Active channel and unvegetated portion of the Grant Creek main channel and side channels. <i>Wetland Points: OP28, OP45, OP48, OP51</i>
		R3UB (Outwash fans and Inlet Cr.)	C	3.07	Unvegetated channel beds and outwash fan located at the inlet of Grant Lake that are flooded during high flow and likely during high precipitation events, but dry during low flows. <i>Wetland Points: OP14, OP56, OP79</i>
		R3UB (Small streams, perennial)	H	8,303 ft	Unvegetated permanently flooded (flowing) active stream channels mapped as stream lines throughout Project area. No acreages associated with these stream lines. <i>Wetland Points: DP12,(HDR112), DP14, DP31, DP39, OP01, OP02, OP03, OP07, OP08, OP09, OP16, OP18, OP56, OP58, OP59, OP68, OP76 (HDR109), OP79; (HDR126)</i>
		R4SB (Small streams, intermittent)	C	5,279 ft	Unvegetated seasonally flooded (not flowing during survey) stream channels mapped as stream lines throughout Project area. No acreages associated with these stream lines. <i>Wetland Points: DP17, OP11, OP25, (HDR117) OP32, OP33, OP43, OP64, OP80; (HDR111)</i>
Non-Vegetated Riverine Subtotal:				9.82	
TOTALS				1698.51	
a,b NWI and hydro modifier codes are the Wetlands and Deepwater Habitats Classification table (Cowardin et al 1979).					
cDP =wetland delineation point, ERM 2013 field; OP = observation point, ERM 2013 field; (HDR ##) = HDR data point, HDR 2010 field; Wetland types w/o specific data points were assessed as part of the ERM 2013 field study, the KHL 2010 field study conducted by HDR, or through a desktop analysis. Community associations were determined based on field knowledge of the wetland communities.					

Table 2. Continued....

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3.2 Jurisdictional Determination

Appendix A, Figures 1 through 6 present the map set of jurisdictional status, labeled by wetland or waters type (RPW, RPWWD, or RPWWN). All wetlands within the assessment area are believed to fall under potential CWA jurisdiction based on either observation or inference of surface or subsurface hydrologic connections linking these wetlands with a TNW via an RPW. The TNW associated with project area wetlands is Kenai Lake, which flows into the Kenai River and eventually into Cook Inlet to the west. The navigability status of the Grant Lake and the Trail Lakes is ‘unknown’ according to the ADNR Navigable Waters website mapping tool (ADNR 2014).

Table 3 presents the RPWs identified within the Project area, and a summary of acreages of wetlands and waters associated with each RPW, per the USACE JD Instructional Guidebook (USACE 2007b). Table 4 details the jurisdictional status of all wetlands and waters within the assessment area that were mapped as area (acres), presented by the RPW with which they are associated; Table 5 details the jurisdictional status of all waters within the assessment area that were mapped as linear feet. All wetlands or waters features are mapped as either an area feature or a linear feature, with the exception of the Grant Creek main channel, which was mapped as both area and linear feet. Given its width (>15 feet), Grant Creek is presented as a polygon to illustrate area, but also as a linear feature to present length.

All wetlands within the Project area were determined to fall into one of the following JD categories, as presented in Tables 3 and 4:

- **RPW:** The following waters with continuous or seasonal flow were identified: Detention pond wetland unnamed tributaries, Grant Creek, Grant Creek unnamed tributaries, Grant Lake, Grant Lake unnamed tributaries, Inlet Creek, Inlet Creek unnamed tributaries; an Upper Trail Lake unnamed tributary, Trail Lake Narrows, and a Lower Trail Lake unnamed tributary. All RPW’s, with the exception of the detention pond wetland tributaries and Inlet Creek tributaries, had wetlands associated with them, as summarized in Table 3.
- **RPWWD:** Several wetlands within the Project area were identified as directly abutting the above RPWs that flow directly or indirectly into a TNW (Kenai Lake).
- **RPWWN:** Four wetland areas were considered adjacent to, but not directly abutting an RPW: 1) a small depressional wetland located north of Grant Creek near the confluence with the Trail Lake Narrows, 2) a depressional wetland located just south of the surge chamber, 3) a slope wetland located south of the intake access road, and 4) a wetland complex consisting of three wetland vegetation types located south of the powerhouse access road. All of these RPWWN wetlands likely have a shallow subsurface groundwater connection either directly with an RPW, or indirectly through their connection with adjacent wetland areas that have a direct connection with an RPW.

The RPWWN designation requires a significant nexus determination; however, because we are requesting a Preliminary JD, which assumes that all wetlands within the Project area are

jurisdictional, no additional significant nexus information is provided here. If an Approved JD is requested at a later date, a significant nexus determination will be provided at that time.

Table 3. Summary of area of wetland or waters associated with each RPW

Relatively Permanent Water ¹	Associated Wetland or Waters Type	Wetlands Summary (Acres)	Waters Summary (Acres)	NWI Types	Description
Detention Pond Wetland- unnamed tributaries	None	Amount	0.00	NA	NA
Grant Creek	RPWWN	0.01	/	PEM1	Herbaceous wetland
Grant Creek	RPW	/	6.74	R2UB	Non-vegetated riverine (Grant Cr main and side channels)
Grant Creek	RPWWD	4.17	/	PEM1, PEM1/SS1, PSS1/EM1, PSS1/FO1	Herbaceous, scrub/shrub, and forested wetland
Grant Creek- unnamed tributaries	RPWWD	5.02	/	PEM1, PFO4, PSS1/3, PSS1/EM1	Herbaceous, scrub/shrub, and forested wetland
Grant Creek- unnamed tributaries	RPWWN	0.06	/	PEM1	Herbaceous wetland
Grant Creek- unnamed tributaries	RPWWD	/	0.02	PUB	Pond
Grant Lake	RPW	/	1649.11	L1UB, L2UB, L2US	Non-vegetated lacustrine deep and shallow water (Grant Lake)
Grant Lake	RPWWD	28.16	/	PEM1, PEM1/SS1, PSS1, PSS1/EM1	Herbaceous and scrub/shrub wetland
Grant Lake- unnamed tributaries	RPWWD	/	0.94	R3UB	Non-vegetated riverine channel beds and outwash fans
Grant Lake- unnamed tributaries	RPWWN	0.08	/	PFO4/EM1	Forested-herbaceous wetland
Inlet Creek	RPW	/	2.13	R3UB	Non-vegetated riverine channel beds and outwash fans (Inlet Creek)
Inlet Creek- unnamed tributaries	None	0.00	0.00	NA	NA
Upper Trail Lake- unnamed tributary	RPWWD	0.08	/	PEM1/SS1	Herbaceous-scrub/shrub wetland
Trail Lake Narrows	RPW	/	1.01	L1UB	Non-vegetated lacustrine deep water (Trail Lake Narrows)
Trail Lake Narrows	RPWWD	0.22	/	PEM1	Herbaceous wetland
Lower Trail Lake- unnamed tributary	RPWWN	0.34	/	PEM1, PSS1, PSS3/EM1	Herbaceous and scrub/shrub wetland
Lower Trail Lake- unnamed tributary	RPWWD	0.40	/	PSS4/3/EM1	Scrub/shrub-herbaceous wetland
Totals		38.54	1659.96		

1: RPW, synonymous with "Waters_Name" in the 2014 version of the "ORM_Upload_Sheet_Consolidated" Excel workbook provided by USACE

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Table 4. Detailed jurisdictional determination of wetlands and waters mapped as area (as opposed to linear feet)

Wetlands							
Waters Name (Associated RPW)	NWI	Hydro	HGM	Measurement Type	Amount	Unit	Waters Type
Grant Creek	PEM1	B	Depressional	Area	0.005	Acre	RPWWN
Grant Creek	PEM1	C	Riverine	Area	0.026	Acre	RPWWD
Grant Creek	PEM1	E	Riverine	Area	0.019	Acre	RPWWD
Grant Creek	PEM1	C	Riverine	Area	0.028	Acre	RPWWD
Grant Creek	PEM1	C	Riverine	Area	0.205	Acre	RPWWD
Grant Creek	PEM1	C	Riverine	Area	0.107	Acre	RPWWD
Grant Creek	PEM1/SS1	C	Riverine	Area	2.502	Acre	RPWWD
Grant Creek	PSS1/EM1	E	Riverine	Area	0.097	Acre	RPWWD
Grant Creek	PSS1/EM1	E	Riverine	Area	0.087	Acre	RPWWD
Grant Creek	PSS1/EM1	C	Riverine	Area	1.053	Acre	RPWWD
Grant Creek	PSS1/FO1	C	Riverine	Area	0.043	Acre	RPWWD
Grant Creek- unnamed tributary	PEM1	B	Depressional	Area	0.056	Acre	RPWWN
Grant Creek- unnamed tributary	PEM1	H	Depressional	Area	0.023	Acre	RPWWD
Grant Creek- unnamed tributary	PFO4	B	Slope	Area	0.808	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/3	B	Depressional	Area	0.139	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/3	B	Depressional	Area	0.167	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/EM1	E	Depressional	Area	2.947	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/EM1	E	Riverine	Area	0.080	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/EM1	B	Riverine	Area	0.332	Acre	RPWWD
Grant Creek- unnamed tributary	PSS3/EM1	B	Depressional	Area	0.168	Acre	RPWWD
Grant Creek- unnamed tributary	PSS3/EM1	B	Depressional	Area	0.353	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.691	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.094	Acre	RPWWD
Grant Lake	PEM1	H	Lacustrine	Area	0.138	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.084	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.314	Acre	RPWWD
Grant Lake	PEM1	B	Lacustrine	Area	0.071	Acre	RPWWD
Grant Lake	PEM1	B	Lacustrine	Area	0.382	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.089	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.063	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.074	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.097	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.090	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.115	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.117	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.128	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.075	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.036	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.049	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.079	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.076	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.064	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.040	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.019	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.044	Acre	RPWWD
Grant Lake	PEM1	F	Lacustrine	Area	1.234	Acre	RPWWD
Grant Lake	PEM1/SS1	E	Lacustrine	Area	0.114	Acre	RPWWD
Grant Lake	PEM1/SS1	B	Lacustrine	Area	0.070	Acre	RPWWD
Grant Lake	PEM1/SS1	E	Lacustrine	Area	0.287	Acre	RPWWD
Grant Lake	PEM1/SS1	C	Lacustrine	Area	0.704	Acre	RPWWD
Grant Lake	PEM1/SS1	E	Lacustrine	Area	0.025	Acre	RPWWD
Grant Lake	PSS1	E	Lacustrine	Area	7.172	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.113	Acre	RPWWD
Grant Lake	PSS1	E	Lacustrine	Area	0.194	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.238	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.196	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.184	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.035	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.078	Acre	RPWWD
Grant Lake	PSS1	C	Riverine	Area	0.008	Acre	RPWWD
Grant Lake	PSS1	B	Riverine	Area	3.936	Acre	RPWWD
Grant Lake	PSS1	C	Riverine	Area	0.023	Acre	RPWWD
Grant Lake	PSS1	B	Riverine	Area	0.187	Acre	RPWWD
Grant Lake	PSS1	E	Riverine	Area	1.550	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.026	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.049	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.538	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.027	Acre	RPWWD

Table 4. Continued....

Grant Lake	PSS1/EM1	B	Lacustrine	Area	0.724	Acre	RPWWD
Grant Lake	PSS1/EM1	B	Lacustrine	Area	4.404	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.473	Acre	RPWWD
Grant Lake	PSS1/EM1	C	Lacustrine	Area	0.349	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.234	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.075	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.053	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.094	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.190	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Riverine	Area	0.562	Acre	RPWWD
Grant Lake	PSS1/EM1	B	Riverine	Area	0.988	Acre	RPWWD
Grant Lake- unnamed tributary	PFO4/EM1	B	Slope	Area	0.082	Acre	RPWWN
Lower Trail Lake- unnamed tributary	PEM1	B	Depressional	Area	0.048	Acre	RPWWN
Lower Trail Lake- unnamed tributary	PSS1	B	Depressional	Area	0.214	Acre	RPWWN
Lower Trail Lake- unnamed tributary	PSS3/EM1	B	Depressional	Area	0.078	Acre	RPWWN
Lower Trail Lake- unnamed tributary	PSS4/3/EM1	B	Depressional	Area	0.404	Acre	RPWWD
Trail Lake Narrows	PEM1	C	Riverine	Area	0.224	Acre	RPWWD
Upper Trail Lake- unnamed tributary	PEM1/SS1	E	Depressional	Area	0.084	Acre	RPWWD
			Total Wetland Area		38.5		
Waters							
Waters Name (Associated RPW)	NWI	Hydro	HGM	Measurement Type	Amount	Unit	Waters Type
Grant Creek	R2UB	H	Riverine	Area	6.745	Acre	RPW
Grant Creek- unnamed tributary	PUB	H	Depressional	Area	0.024	Acre	RPWWD
Grant Lake	L1UB	H	Lacustrine	Area	1648.200	Acre	RPW
Grant Lake	L2UB	H	Lacustrine	Area	0.821	Acre	RPW
Grant Lake	L2US	C	Lacustrine	Area	0.086	Acre	RPW
Inlet Creek	R3UB	C	Riverine	Area	2.131	Acre	RPWWD
Grant Lake- unnamed tributary	R3UB	C	Riverine	Area	0.515	Acre	RPWWD
Grant Lake- unnamed tributary	R3UB	C	Riverine	Area	0.427	Acre	RPWWD
Trail Lake Narrows	L1UB	H	Lacustrine	Area	1.011	Acre	RPW
			Total Waters Area		1660.0		

Table 5. Detailed jurisdictional determination of waters mapped as linear feet

Waters Name	NWI Code	HGM	Measurement Type	Amount	Unit	Waters Type	Stream Type
Detention pond wetland- unnamed tributary	R4SB	Riverine	Linear	393.6	Feet	RPW	Intermittent
Detention pond wetland- unnamed tributary	R4SB	Riverine	Linear	688.4	Feet	RPW	Intermittent
Grant Creek	R3UB	Riverine	Linear	5,774.0	Feet	RPW	Perennial
Grant Creek- unnamed tributary	R3UB	Riverine	Linear	413.0	Feet	RPW	Perennial
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	251.8	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	593.8	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	103.0	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	182.8	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	109.7	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	109.4	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	323.8	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	444.3	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	327.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	108.1	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	192.8	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	736.7	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	93.0	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	524.5	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	81.4	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	475.9	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	28.2	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	64.5	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	50.4	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	90.7	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	24.0	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	193.8	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	210.3	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	56.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	83.1	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	34.0	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	7.7	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	11.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	36.3	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	49.5	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	28.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	18.7	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	101.2	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	42.0	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	21.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	13.8	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	52.1	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	10.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	43.8	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	46.4	Feet	RPW	Intermittent
Inlet Creek	R3UB	Riverine	Linear	113.3	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	120.8	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	129.2	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	189.0	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	2,390.8	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	1,558.0	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	389.8	Feet	RPW	Perennial
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	43.2	Feet	RPW	Intermittent
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	99.6	Feet	RPW	Intermittent
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	66.9	Feet	RPW	Intermittent
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	346.5	Feet	RPW	Intermittent
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	197.1	Feet	RPW	Intermittent
Lower Trail Lake- unnamed tributary	R4SB	Riverine	Linear	393.5	Feet	RPW	Intermittent
Upper Trail Lake- unnamed tributary	R3UB	Riverine	Linear	125.4	Feet	RPW	Perennial
		Total Linear Feet		19,412.0			

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4 CONCLUSIONS

This report is in support of KHL's request for a Preliminary JD for permitting of the proposed Project. As part of a Preliminary JD, all of the wetlands and waters mapped within the Project's wetland assessment area are assumed to be within the jurisdiction of Section 404 of the CWA as interpreted by the USACE. The TNW associated with the Project area wetlands and waters is Kenai Lake. The Project area wetlands and waters are connected to Kenai Lake via Grant Creek which flows into the Trail Lake Narrows and Lower Trail Lake, which flows into Kenai Lake. Wetlands and waters were categorized as either a 1) RPW that flows directly or indirectly into a traditional navigable water, 2) a wetland directly abutting an RPW, that flows directly or indirectly into a traditional navigable water, or 3) a wetland adjacent to but not directly abutting an RPW that flows directly or indirectly into a traditional navigable water.

Given that this is a Preliminary JD request, a formal significant nexus determination was not completed as part of this report. If KHL requests an Approved JD in the future, a significant nexus determination will be completed at that time.

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- . 2014b. Grant Lake Hydroelectric Project (FERC No. 13212). Aquatic Resources Study – Grant Creek Aquatic Habitat Mapping and Instream Flow Study, Final Report. Prepared by McMillen LLC for Kenai Hydro, LLC. June 2014.
- . 2015a. Draft License Application for the Grant Lake Hydropower Project FERC No. 13212. Exhibits A, E, F and G. March 2015.
- . 2015b. Grant Lake Hydroelectric Project Clean Water Act Draft Section 404 Application for a Department of Army Permit. Submitted to the U.S. Army Corps of Engineers, Alaska Region. May 2015.
- NWI (National Wetlands Inventory). 2013. USFWS Wetlands Online Mapper. Accessed February 2013. Website: <http://www.fws.gov/wetlands/data/mapper.html>
- USACE (U. S. Army Corps of Engineers). 1987. Corps of Engineers Wetland Delineation Manual. Environmental Laboratory Department of the Army Waterways Experiment Station, U. S. Corps of Engineers. January 1987.
- . 2007a. Regional Supplement to the 1987 Wetland Delineation Manual: Alaska Region (Version 2.0). Engineer Research and Development Center. September 2007.
- . 2007b. U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook. Engineer Research and Development Center. U.S. Army Corps of Engineers. May 30, 2007.
- . 2010. Special Public Notice (SPN) 2010-45. Corps of Engineers Regulatory Program Consultant-Supplied Jurisdictional Determination Reports. January 29, 2010. U.S. Army Corps of Engineers, Alaska District Regulatory Division.

Appendix A: Wetlands and Waters Jurisdictional Determination Map Set

Figure 1. Wetland and waters jurisdictional types - global indicator map.

Figure 2. Wetland and waters jurisdictional types - Grant Creek.

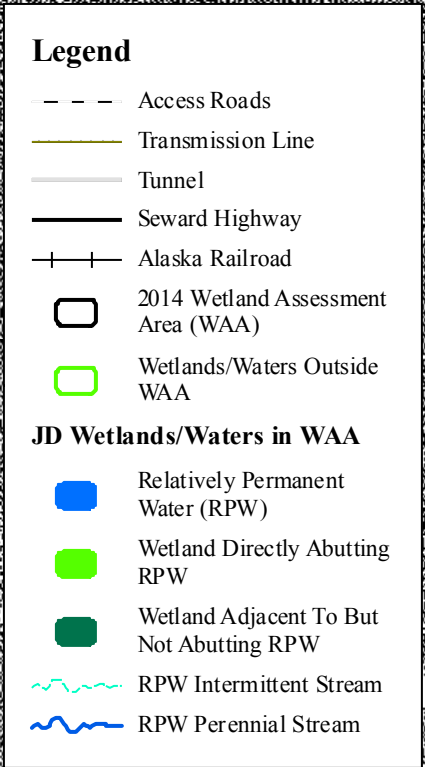
Figure 3. Wetland and waters jurisdictional types - Grant Lake-intake.

Figure 4. Wetland and waters jurisdictional types - Grant Lake-NW elbow.

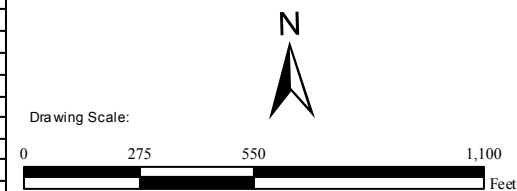
Figure 5. Wetland and waters jurisdictional types - Grant Lake-island east.

Figure 6. Wetland and waters jurisdictional types - Grant Lake-east end.

1. THIS MAP WAS DEVELOPED FOR KENAI HYDRO, LLC AS PART OF THE GRANT LAKE HYDROELECTRIC PROJECT (FERC NO. 13212), NATURAL RESOURCES STUDY DOCUMENTATION. THE LOCATION OF PROJECT FEATURES IS SUBJECT TO CHANGE AND IS SHOWN FOR PLANNING PURPOSES ONLY.
2. THIS MAP WAS DEVELOPED FROM THE FOLLOWING RESOURCES:
 - A. AERIAL IMAGERY DEVELOPED BY USFS.
 - B. WETLAND TYPES AND STUDY AREA BOUNDARIES WERE DRAWN BY ERM, INC 2013.
 - C. PROJECT FEATURE LOCATIONS PROVIDED BY KENAI HYDRO, LLC.
3. THIS MAP PRESENTS DATA IN THE FOLLOWING GEOGRAPHIC SYSTEMS:
 - HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83)
 - VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)
 - PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE



REV	DATE	BY	DESCRIPTION



McMILLEN, LLC
1401 SHORELINE DRIVE
BOISE, ID 83702
OFFICE: 208.342.4214
FAX: 208.342.4216

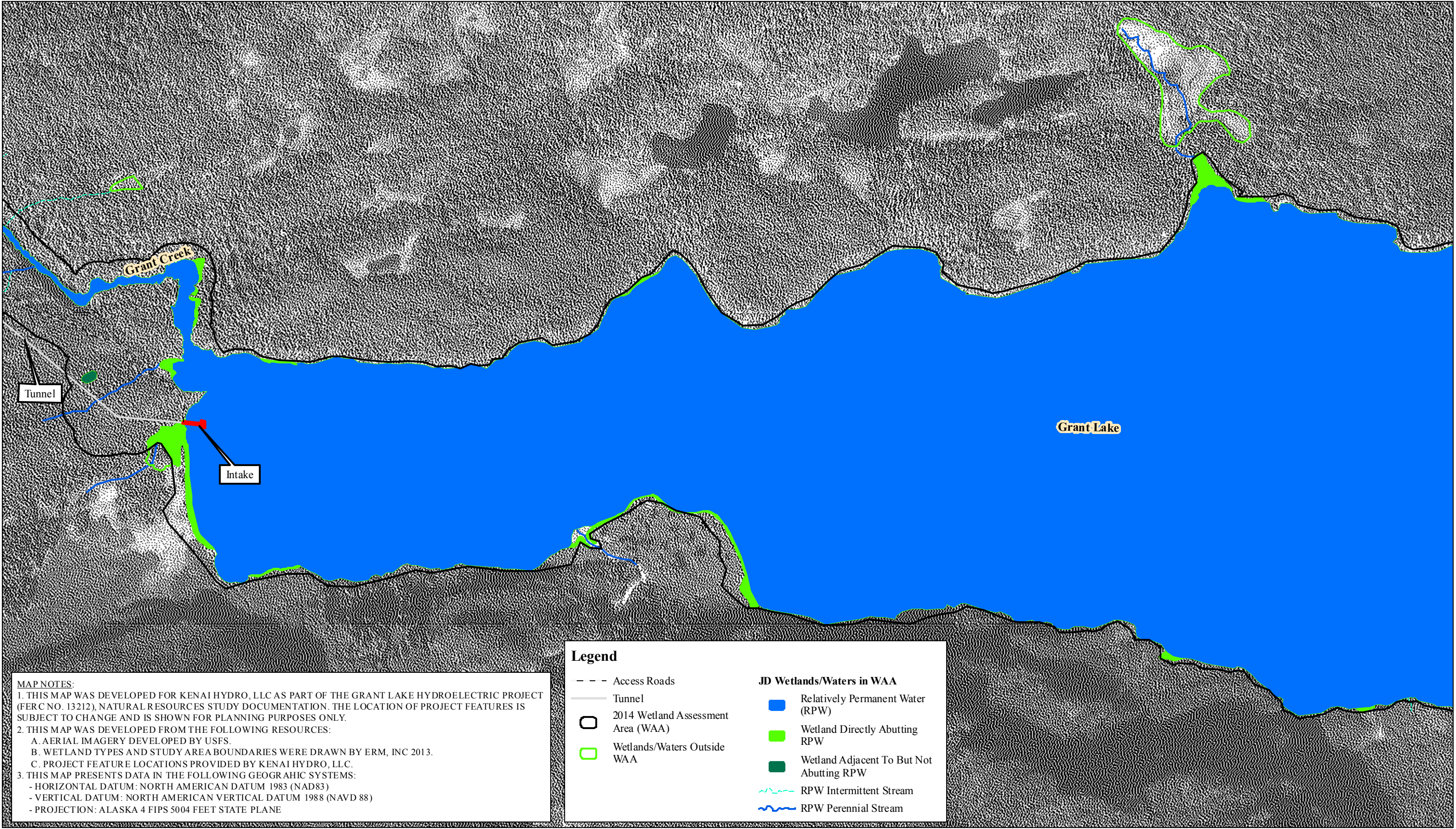
Developed For:

 **Homer Electric Association, Inc.**
A "Touchstone Energy" Cooperative 

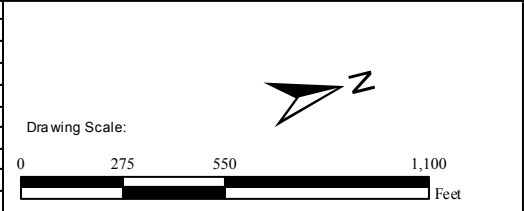
Appendix A - Figure 2
Wetland and Waters Jurisdictional Types
Grant Creek

ISSUED DATE 2/20/2015

SCALE: 1:5,500



REV	DATE	BY	DESCRIPTION



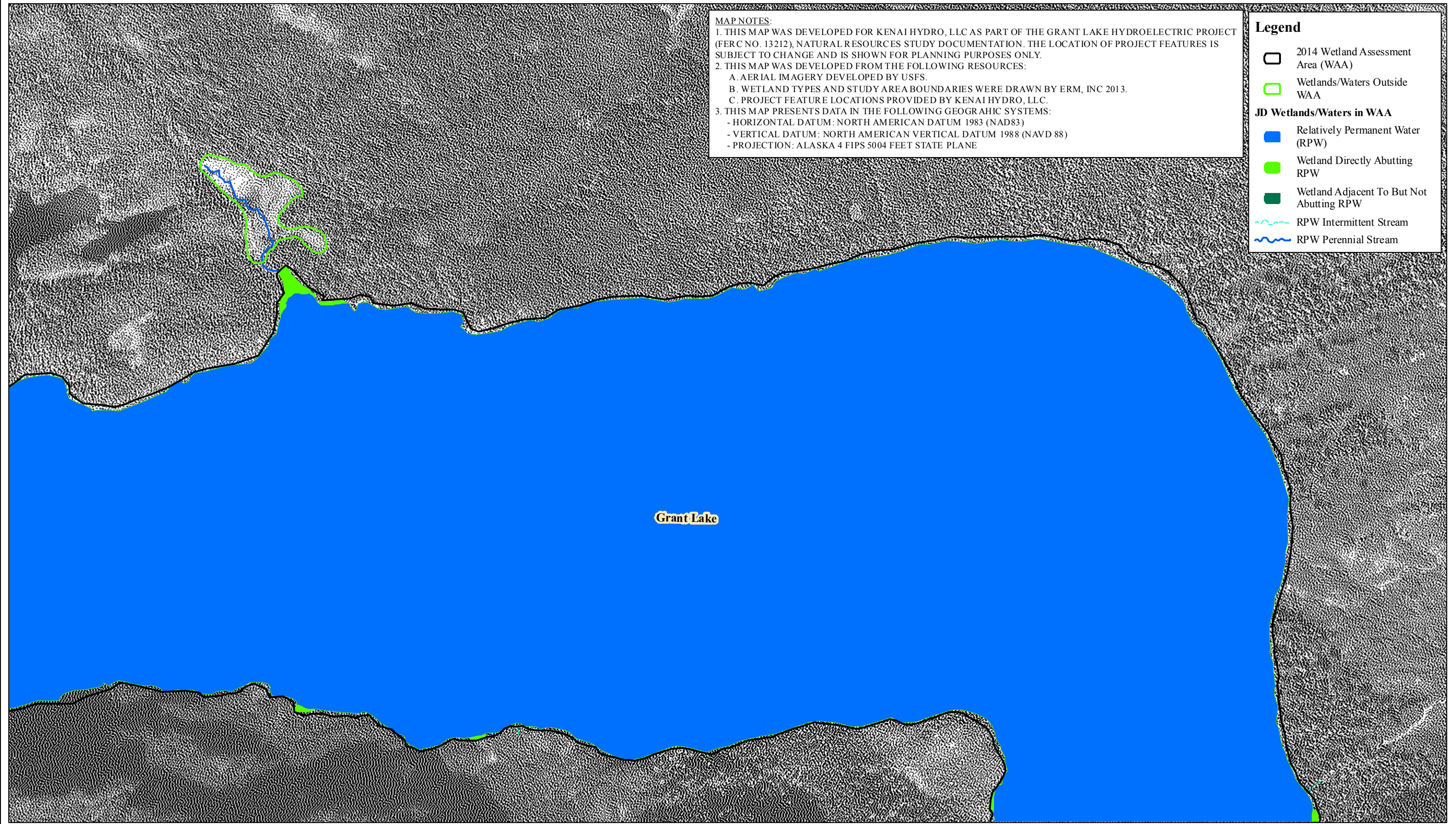
McMILLEN, LLC
1401 SHORELINE DRIVE
BOISE, ID 83702

OFFICE: 208.342.4214
FAX: 208.342.4216

Developed For:

Homer Electric Association, Inc.
A "Touchstone Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212		DESIGNED <u>J. Woodbury</u>	DRAWING 3 of 6
JURISDICTIONAL DETERMINATION REPORT		DRAWN <u>M. Hjortsberg</u>	
Appendix A - Figure 3 Wetlands and Waters Jurisdictional Types Grant Lake - Intake		CHECKED <u>L. Shoutis</u>	SCALE: 1:6,200
		ISSUED DATE <u>2/20/2015</u>	



MAP NOTES:

1. THIS MAP WAS DEVELOPED FOR KENAI HYDRO, LLC AS PART OF THE GRANT LAKE HYDROELECTRIC PROJECT (FERC NO. 13212), NATURAL RESOURCES STUDY DOCUMENTATION. THE LOCATION OF PROJECT FEATURES IS SUBJECT TO CHANGE AND IS SHOWN FOR PLANNING PURPOSES ONLY.

2. THIS MAP WAS DEVELOPED FROM THE FOLLOWING RESOURCES:

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B. WETLAND TYPES AND STUDY AREA BOUNDARIES WERE DRAWN BY ERM, INC 2013.

C. PROJECT FEATURE LOCATIONS PROVIDED BY KENAI HYDRO, LLC.

3. THIS MAP PRESENTS DATA IN THE FOLLOWING GEOGRAPHIC SYSTEMS:

- HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83)

- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)

- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE

Legend

2014 Wetland Assessment Area (WAA)

Wetlands/Waters Outside WAA

JD Wetlands/Waters in WAA

Relatively Permanent Water (RPW)

Wetland Directly Abutting RPW

Wetland Adjacent To But Not Abutting RPW

RPW Intermittent Stream

RPW Perennial Stream

REV	DATE	BY	DESCRIPTION

Drawing Scale:

0 275 550 1,100 Feet

McMILLEN, LLC

1401 SHORELINE DRIVE
BOISE, ID 83702

OFFICE: 208.342.4214
FAX: 208.342.4216

Developed For:

A Touchstone Energy Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Appendix A - Figure 4

Wetlands and Waters Jurisdictional Types

Grant Lake - NW Elbow

DESIGNED J. Woodbury

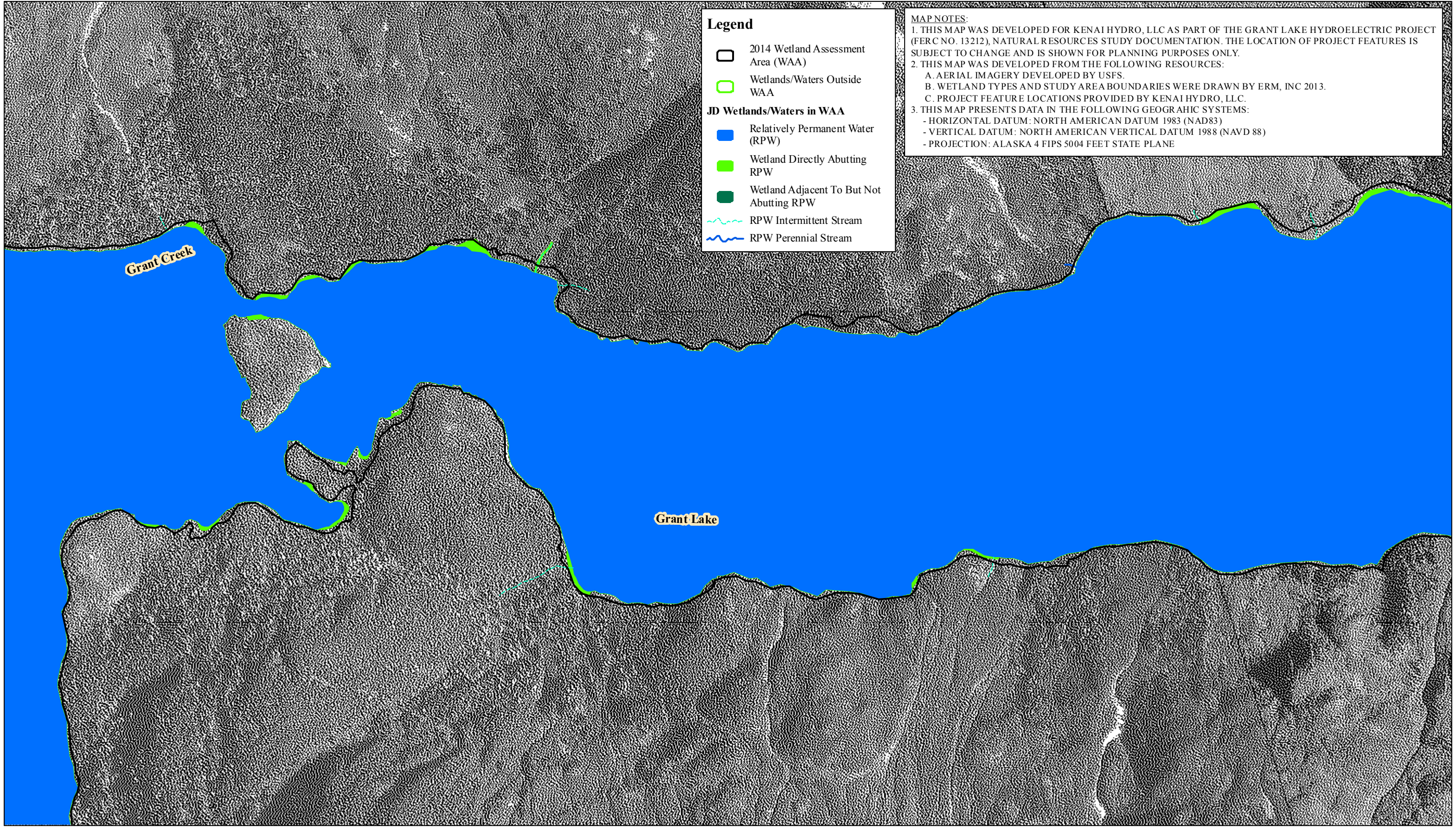
DRAWN M. Hjortsberg

CHECKED L. Shoutis

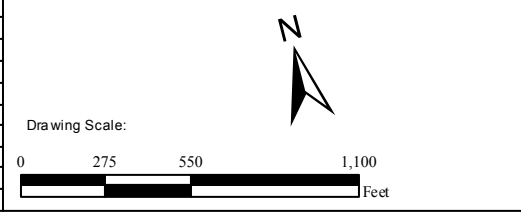
ISSUED DATE 2/20/2015

DRAWING **4 of 6**

SCALE: 1:7,000



REV	DATE	BY	DESCRIPTION	



McMILLEN, LLC

1401 SHORELINE DRIVE
BOISE, ID 83702

OFFICE: 208.342.4214
FAX: 208.342.4216

Developed For:

HEA Homer Electric Association, Inc.

A "Touchstone Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Appendix A - Figure 5
Wetland and Waters Jurisdictional Types
Grant Lake - Island East

DESIGNED J. Woodbury

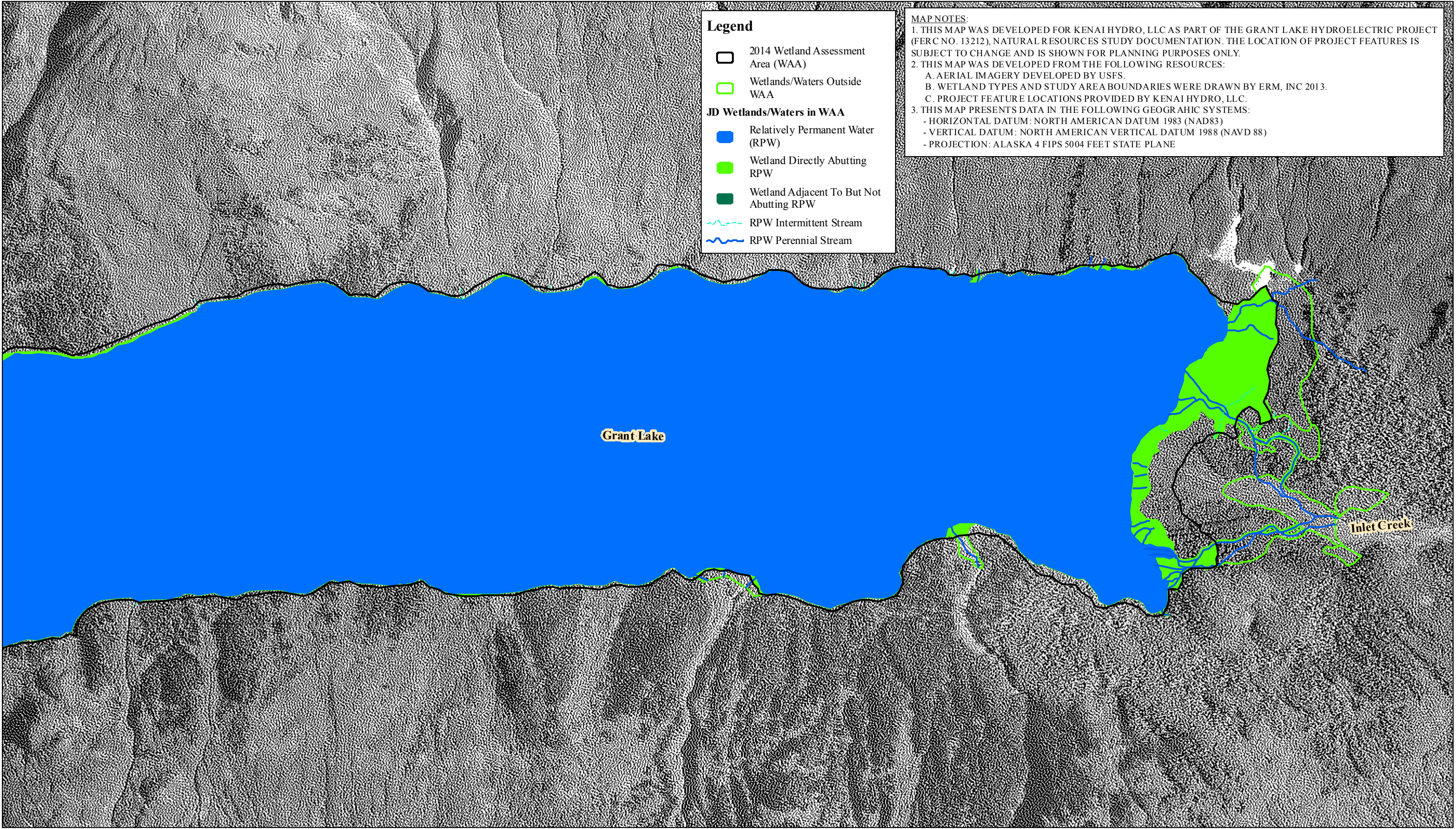
DRAWN M. Hjortsberg

CHECKED L. Shoutis

ISSUED DATE 2/20/2015

DRAWING
5 of 6

SCALE: 1:7,500



REV	DATE	BY	DESCRIPTION



Drawing Scale:

0 275 550 1,100 Feet

McMILLEN, LLC

1401 SHORELINE DRIVE
BOISE, ID 83702

OFFICE: 208.342.4214
FAX: 208.342.4216

Developed For:



Homer Electric Association, Inc.

A Touchstone Energy® Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Appendix A - Figure 6
Wetland and Waters Jurisdictional Types
Grant Lake - East End

DESIGNED J. Woodbury

DRAWN M. Hjortsberg

CHECKED L. Shoutis

ISSUED DATE 2/20/2015

DRAWING
6 of 6

SCALE: 1:9,900

From: Warnock, Cory
Sent: Friday, June 05, 2015 8:16 AM
To: Andersen, Emily
Subject: FW: Draft Grant Lake (P-13212) BE
Attachments: Grant Lake (P-13212) BE Plants Draft FINAL.pdf

Sorry

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory
Sent: Monday, May 18, 2015 9:56 AM
To: 'rstovall@fs.fed.us'
Subject: Draft Grant Lake (P-13212) BE

Hi Robert,

I know that you received this Friday via the global message that I sent out but I wanted to also send you a personal copy to make sure you could distribute it appropriately to your internal staff. If you have any questions, don't hesitate to let me know.

Thanks and hope all is well.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c
warnock@mcmjac.com

From: Warnock, Cory
Sent: Monday, May 18, 2015 8:47 AM
To: frances_mann@fws.gov
Cc: Andersen, Emily
Subject: Draft Grant Lake Project (P13212) Management Plans (#1)
Attachments: Grant Lk OM Compliance Plan Draft 05-15-15 FINAL.PDF; Grant Lk Avian Protection Plan Draft 05-15-15 FINAL.PDF

Hello,

Please see below for the original correspondence related to the draft Grant Lake Management Plans. You were included on the original correspondence. However, the email was returned due to file size exceedance issues. In an effort to make sure you receive the files, I'm breaking the files out into two separate messages (this being the first). Second to follow shortly.

Thank you and don't hesitate to let me know if you have any questions.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

Per KHL's commitment, I am attaching three draft Grant Lake management and monitoring plans (Plans) and a Biological Evaluation (BE) for your review/comment. These Plans and BE are:

- Draft Grant Lake Operation Compliance Monitoring Plan
- Draft Grant Lake Avian Protection Plan
- Draft Grant Lake Vegetation Management Plan (Public Version)
- Draft Grant Lake Biological Evaluation for Plants

Additional documents that have been developed and are being sent to the appropriate entities for review and comment based on either their privileged or content specific nature include:

- Draft Grant Lake Historic Properties Management Plan
- Draft Grant Lake Vegetation Management Plan (Privileged Version)
- Clean Water Act Section 404 Application (Army Corps of Engineers)

In addition to all of the documents mentioned above, a Draft Biotic Monitoring Plan is in the final phases of development and will be distributed for public review and comment shortly. Per previous communications, it continues

to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27, 2015 which formally began a 90 day review period which will conclude on June 25, 2015. It is KHL's desire to receive comments from not only the DLA by this date but also the Plans and BE. This will assist in facilitating an efficient comment review and document modification process and ultimately allow us to develop the most comprehensive and collaborative Final License Application for FERC review.

KHL will be filing these Plans and BE with FERC and placing the public documents on the Kenai Hydro website to provide additional mechanisms for download and review. At the risk of being redundant, I'm also copying the instructions I provided for accessing the DLA from FERC eLibrary (see below). With respect to comment responses, if you would like to submit comments in written form, send them to the following address and reference the FERC Project Number (P-13212):

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Instructions For Accessing the Management/Monitoring Plans and BE via FERC eLibrary

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between May 15th and May 25th. This will ensure that the DLA filing is included in your request.
- Under the "Library" category, make sure "Hydro" is selected.
- Under the "Docket Number" category, enter "P-13212"
- Click "Submit" at the bottom of the page.
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific plans that you'd like to review, select the .pdf option and the selected file will open on your computer.

As always, if there are any questions, please don't hesitate to contact me.

Thanks.

From: Warnock, Cory
Sent: Monday, May 18, 2015 8:48 AM
To: frances_mann@fws.gov
Cc: Andersen, Emily
Subject: Draft Grant Lake Project (P13212) Management Plans (#2)
Attachments: Grant Lk Veg Management Plan Draft 05-15-15 FINAL Public.pdf; Grant Lake BE Plants Draft 05-15-15 FINAL.PDF

#2

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Warnock, Cory
Sent: Tuesday, May 19, 2015 11:06 AM
To: 'Ken Hogan'
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Grant Lake 404 Application Submitted

Hi Ken,

Just dropping you a quick note to let you know that per KHL's commitment from the rehearing request, the Grant Lake Project 404 Application was distributed to the ACOE yesterday for review.

Again, just FYI.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Warnock, Cory
Sent: Tuesday, May 19, 2015 12:09 PM
To: ntc@niniichiktribe-nsn.gov
Cc: Andersen, Emily
Subject: Draft Grant Lake Project (P13212) Management Plans (#1)
Attachments: Grant Lk OM Compliance Plan Draft 05-15-15 FINAL.PDF; Grant Lk Avian Protection Plan Draft 05-15-15 FINAL.PDF

Hello,

Please see below for the original correspondence related to the draft Grant Lake Management Plans. You were included on the original correspondence. However, the email was returned due to file size exceedance issues. In an effort to make sure you receive the files, I'm breaking the files out into two separate messages (this being the first). Second to follow shortly.

Thank you and don't hesitate to let me know if you have any questions.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

Per KHL's commitment, I am attaching three draft Grant Lake management and monitoring plans (Plans) and a Biological Evaluation (BE) for your review/comment. These Plans and BE are:

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- Draft Grant Lake Avian Protection Plan
- Draft Grant Lake Vegetation Management Plan (Public Version)
- Draft Grant Lake Biological Evaluation for Plants

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to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27, 2015 which formally began a 90 day review period which will conclude on June 25, 2015. It is KHL's desire to receive comments from not only the DLA by this date but also the Plans and BE. This will assist in facilitating an efficient comment review and document modification process and ultimately allow us to develop the most comprehensive and collaborative Final License Application for FERC review.

KHL will be filing these Plans and BE with FERC and placing the public documents on the Kenai Hydro website to provide additional mechanisms for download and review. At the risk of being redundant, I'm also copying the instructions I provided for accessing the DLA from FERC eLibrary (see below). With respect to comment responses, if you would like to submit comments in written form, send them to the following address and reference the FERC Project Number (P-13212):

Honorable Kimberly D. Bose, Secretary
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888 First Street, NE
Washington, DC 20426

Instructions For Accessing the Management/Monitoring Plans and BE via FERC eLibrary

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between May 15th and May 25th. This will ensure that the DLA filing is included in your request.
- Under the "Library" category, make sure "Hydro" is selected.
- Under the "Docket Number" category, enter "P-13212"
- Click "Submit" at the bottom of the page.
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific plans that you'd like to review, select the .pdf option and the selected file will open on your computer.

As always, if there are any questions, please don't hesitate to contact me.

Thanks.

From: Warnock, Cory
Sent: Tuesday, May 19, 2015 12:10 PM
To: ntc@niniichiktribe-nsn.gov
Cc: Andersen, Emily
Subject: Draft Grant Lake Project (P13212) Management Plans (#2)
Attachments: Grant Lk Veg Management Plan Draft 05-15-15 FINAL Public.pdf; Grant Lake BE Plants Draft 05-15-15 FINAL.PDF

#2

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Salzetti, Mikel <MSalzetti@HomerElectric.com>
Sent: Wednesday, May 20, 2015 2:07 PM
To: Duvall, Shina A (DNR)
Cc: Bittner, Judith E (DNR); Michael Yarborough; Warnock, Cory; Andersen, Emily; Mark Luttrell
Subject: RE: Request to be a Consulting Party re Grant Lake Hydro project

Shina:

You are correct that FERC designated KHL to be the non-federal entity to address the Section 106 process for the Grant Lake Project. Our interpretation of this designation is that this allows KHL to engage in activities to facilitate the Section 106 process such as setting up meetings, coordinating schedules, developing documents, dealing with comments and gaining concurrence. What KHL believes isn't typically associated with this type of designation is the project proponent determining which parties are allowed to be part of the process and which are not (exclusive of the requisite ones). As such and in a continued effort to be transparent with our licensing efforts, KHL believes that the determination of whether Mr. Luttrell should be allowed to participate (and at what level), is best left up to FERC.

Frank Winchell is the individual at FERC that KHL has been working with regarding the Section 106 process.

Regards,

Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development Homer Electric Association
(907) 283-2375 work
(907) 398-5073 Mobile

-----Original Message-----

From: Duvall, Shina A (DNR) [mailto:shina.duvall@alaska.gov]
Sent: Wednesday, May 20, 2015 10:07 AM
To: Salzetti, Mikel; Mark Luttrell
Cc: Bittner, Judith E (DNR); Michael Yarborough; Warnock, Cory (Warnock@mcmjac.com); Andersen, Emily (Andersen@mcmjac.com)
Subject: RE: Request to be a Consulting Party re Grant Lake Hydro project

Hi Mike,

I understood that HEA/Kenai Hydro was designated by FERC to act on their behalf for the purposes of Section 106. Is this not the case? Are you still working through Frank Winchell at FERC for the Section 106 review and consultation?

Thanks for any additional information you can provide.

Best regards,
Shina

Shina duVall, RPA
Archaeologist, Review and Compliance Coordinator Alaska State Historic Preservation Office / Office of History and Archaeology
550 W. 7th Ave., Suite 1310

Anchorage, Alaska 99501
907-269-8720 (phone) 907-269-8908 (fax)
shina.duvall@alaska.gov

-----Original Message-----

From: Salzetti, Mikel [mailto:MSalzetti@HomerElectric.com]
Sent: Tuesday, May 19, 2015 5:27 PM
To: Mark Luttrell
Cc: Duvall, Shina A (DNR); Bittner, Judith E (DNR); Michael Yarborough; Warnock, Cory (Warnock@mcmjac.com); Andersen, Emily (Andersen@mcmjac.com)
Subject: RE: Request to be a Consulting Party re Grant Lake Hydro project

Mark

You will have to direct this request directly to the Federal Energy Regulatory Commission (FERC).

Regards,

Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development Homer Electric Association
(907) 283-2375 work
(907) 398-5073 Mobile

-----Original Message-----

From: Mark Luttrell [mailto:prufrock@arctic.net]
Sent: Monday, May 18, 2015 1:48 PM
To: Salzetti, Mikel
Cc: Shina A (DNR) Duvall; Bittner Judy; Michael Yarborough
Subject: Request to be a Consulting Party re Grant Lake Hydro project

Hi Mike:

I've attached a letter in PDF format requesting that I be considered a Consulting Party. Thanks for your attention.

Mark Luttrell
Seward

May 18, 2015

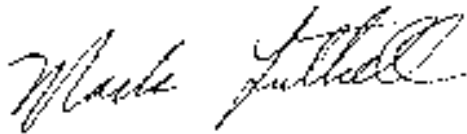
Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Homer Electric Association
Kenai Hydro, LLC
3977 Lake Street
Homer, AK 99603

Mike:

I am requesting that I be granted Consulting Party status within the NHPA Section 106 process as it applies to KHL's Grant Lake Hydro proposal.

I have been an Alaskan archaeologist for over 30 years, I am intimately familiar with much (but not all) of the cultural resources in the project area and would like to participate in discussions of mitigation of adverse effects in the project area.

Thanks for your consideration.

A handwritten signature in black ink, appearing to read "Mark Luttrell". The signature is fluid and cursive, with the first name "Mark" and last name "Luttrell" clearly distinguishable.

Mark Luttrell

Box 511
Seward, AK 99664

907 224-5372

Prufrock@arctic.net

Cc: Judith Bittner, SHPO
Shina duVall, SHPO
Mike Yarborough, Cultural Resources Consultants

From: McCafferty, Katherine A POA <Katherine.A.McCafferty2@usace.army.mil>
Sent: Thursday, May 21, 2015 12:14 PM
To: Salzetti, Mikel
Cc: Andersen, Emily; Warnock, Cory
Subject: RE: Electronic Copy of Grant Lake Draft 404 Application (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks Mike.

Katie McCafferty
Project Manager
Direct: 907-753-2692

U.S. Army Corps of Engineers-Alaska District Regulatory Division, Kenai Field Office
44669 Sterling Highway, Suite B
Soldotna, AK 99669-7915
general office line: 907-753-2689
fax: 907-420-0813
Website: <http://www.poa.usace.army.mil/Missions/Regulatory.aspx>

Please note my new direct phone number.

-----Original Message-----

From: Salzetti, Mikel [mailto:MSalzetti@HomerElectric.com]
Sent: Thursday, May 21, 2015 9:15 AM
To: McCafferty, Katherine A POA
Cc: Emily Andersen (emily.andersen@mcmillen-llc.us); Warnock, Cory (Warnock@mcmjac.com)
Subject: [EXTERNAL] Electronic Copy of Grant Lake Draft 404 Application

Katie:

Attached are the electronic copies of the application that I dropped by your office on Monday.

Best Regards,

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

HAND-DELIVERED

May 18, 2015

Katie McCafferty
Project Manager
U.S. Army Corps of Engineers
Regulatory Division, Kenai Field Office
805 Frontage Rd., Suite 200C
Kenai, AK 99611

Dear Ms. McCafferty:

Kenai Hydro, LLC (KHL) is pleased to submit the attached draft "Application for Permit" (Application) for the proposed Grant Lake Hydroelectric Project (FERC No. 13212) near the town of Moose Pass on the Kenai Peninsula. Along with this Application, we are submitting as supplemental reference a draft Jurisdictional Determination Report.

KHL sincerely appreciates your efforts to advise and collaborate during this Application process and the licensing process as a whole. If you have any questions, please do not hesitate to contact me at (907) 283-2375.

Sincerely,

A handwritten signature in blue ink that reads "Mike Salzetti". The signature is written in a cursive, flowing style.

Mike Salzetti
Project Manager

Enclosures

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

HAND-DELIVERED

May 18, 2015

Katie McCafferty
Project Manager
U.S. Army Corps of Engineers
Regulatory Division, Kenai Field Office
805 Frontage Rd., Suite 200C
Kenai, AK 99611

Dear Ms. McCafferty:

Kenai Hydro, LLC (KHL) is pleased to submit the attached draft "Application for Permit" (Application) for the proposed Grant Lake Hydroelectric Project (FERC No. 13212) near the town of Moose Pass on the Kenai Peninsula. Along with this Application, we are submitting as supplemental reference a draft Jurisdictional Determination Report.

KHL sincerely appreciates your efforts to advise and collaborate during this Application process and the licensing process as a whole. If you have any questions, please do not hesitate to contact me at (907) 283-2375.

Sincerely,

A handwritten signature in blue ink that reads "Mike Salzetti". The signature is written in a cursive, flowing style.

Mike Salzetti
Project Manager

Enclosures

Grant Lake Hydroelectric Project (FERC No. 13212)

DRAFT

Clean Water Act Section 404 Application

For a Department of Army Permit

Submitted to

Department of the Army

United States Army Corps of Engineers

Alaska Region

Submitted by

Kenai Hydro, LLC

May 2015

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Appendix

Appendix A: USACE General Best Management Practices (BMP) for Projects in Waters of the U.S.

INTRODUCTION

Kenai Hydro, LLC (KHL), a wholly-owned subsidiary of Homer Electric Association, Inc., is filing this U.S. Army Corps of Engineers (USACE) Application for Department of Army Permit for the Grant Lake Hydropower Project (“Project”), FERC No. 13212, pursuant to the Clean Water Act Section 404. This permit application is referred to as the “Section 404 application”. The proposed Project generating facilities will be located on Grant Creek, a natural outlet of Grant Lake, which in its entirety, flows approximately one mile to Lower Trail Lake. Project components are described in detail in the Federal Energy Regulatory Commission (FERC) Draft License Application (DLA) for the Project, Exhibits A and F (KHL 2015a), and are summarized in this application.

The proposed Project will be located near the community of Moose Pass, Alaska, in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska, and just east of the Seward Highway (State Route 9); this highway connects Anchorage to Seward. The Alaska Railroad (ARRC) parallels the route of the Seward Highway, and is also adjacent to the Project area. Grant Lake is located in the mountainous terrain of the Kenai Mountain Range and has a maximum water surface elevation of 703 feet North American Vertical Datum of 1988 (NAVD 88) and surface area of approximately 1,703 acres.

The purpose of this application is to assist the USACE in their assessment of impacts to Waters of the U.S. (referred to as wetlands and waters) caused by the permanent or temporary placement of dredged or fill material associated with the construction and operation of the Project into wetlands and waters. The structure of this Section 404 application is as follows:

The following documents provide supplemental information on the wetlands and waters within the Project area to assist in the evaluation of this Section 404 application:

- *Grant Lake Terrestrial Resources Report, Botanical Resources*, Section 4 (KHL 2014). This report includes the 2013 wetland and waters delineation and the wetland and waters functional assessment and categorization (the categorization is updated in this application).
- *FERC Draft License Application (DLA) for the Grant Lake Hydropower Project Exhibit E* (KHL 2015a). The DLA includes a summary of the wetlands and waters delineation, as well as an assessment of all potential Project impacts to wetlands and waters.
- *Jurisdictional Determination Report* (KHL 2015b). This report presents the request for a Preliminary Jurisdictional Determination from the USACE. It includes the wetland and waters delineation, slightly updated from the Terrestrial Resources Report (above) to include minor revisions to the Project components; it also includes the proposed jurisdictional status of all wetlands and waters within the wetland assessment area.

This Section 404 application is organized as follows. The Section 404 application form is presented first (ENG FORM 4345, July 2013), followed by Blocks of the application form where additional detailed information is provided. Each Block is referenced to the application form by

number. The Mitigation Statement for the Project is presented as part of Block 23. Figures are presented in the Figures section at the end of this document. Detailed Project design figures are presented in the DLA (KHL 2015a) Exhibit F, and are not included in this document.

ENGINEERING FORM 4345

USACE Application for Department of the Army Permit, July 2013 Version

U.S. ARMY CORPS OF ENGINEERS APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT 33 CFR 325. The proponent agency is CECW-CO-R.		Form Approved - OMB No. 0710-0003 Expires: 31-AUGUST-2013	
Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.			
PRIVACY ACT STATEMENT			
Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.			
(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)			
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
(ITEMS BELOW TO BE FILLED BY APPLICANT)			
5. APPLICANT'S NAME		6. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)	
First - Mike	Middle - Last - Salzetti	First - Cory	Middle - Last - Warnock
Company - Kenai Hydro, LLC, Homer Electric Assoc., Inc		Company - McMillen Jacobs Associates	
E-mail Address - MSalzetti@HomerElectric.com		E-mail Address - warnock@mcmjac.com	
7. APPLICANT'S ADDRESS:		9. AGENT'S ADDRESS:	
Address- 3977 Lake Street		Address- 5771 Applegate Ln.	
City - Homer	State - AK Zip - 99603 Country - USA	City - Ferndale	State - WA Zip - 98248 Country - USA
10. APPLICANT'S PHONE NOS. w/AREA CODE		10. AGENTS PHONE NOS. w/AREA CODE	
a. Residence	b. Business	c. Fax	
(907) 235-8551		360-384-2662	
STATEMENT OF AUTHORIZATION			
11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.			
_____ SIGNATURE OF APPLICANT		_____ DATE	
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY			
12. PROJECT NAME OR TITLE (see instructions)			
Grant Lake Hydropower Project			
13. NAME OF WATERBODY, IF KNOWN (if applicable)		14. PROJECT STREET ADDRESS (if applicable)	
Several, see attached document		Address	
15. LOCATION OF PROJECT			
Latitude: -N	Longitude: -W	City - Moose Pass	State- AK Zip-
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)			
State Tax Parcel ID		Municipality See attached document	
Section -	Township -	Range -	

17. DIRECTIONS TO THE SITE	See attached document						
18. Nature of Activity (Description of project, include all features)	See attached document						
19. Project Purpose (Describe the reason or purpose of the project, see instructions)	See attached document						
USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED							
20. Reason(s) for Discharge	See attached document						
21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:	See attached document						
<table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">Type</td> <td style="width: 33%;">Type</td> <td style="width: 33%;">Type</td> </tr> <tr> <td>Amount in Cubic Yards</td> <td>Amount in Cubic Yards</td> <td>Amount in Cubic Yards</td> </tr> </table>	Type	Type	Type	Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards	
Type	Type	Type					
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards					
22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)							
Acres See attached document or Linear Feet							
23. Description of Avoidance, Minimization, and Compensation (see instructions)	See attached document						

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK					
25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).					
a. Address- State of Alaska, Department of Natural Resources, Office of the Commissioner, 550 W. 7th. Avenue, Suite 1400					
City - Anchorage	State - Alaska	Zip - 99501			
b. Address- U.S. Forest Service, Chugach National Forest Supervisor's Office, 161 East 1st Avenue Door 8					
City - Anchorage	State - Alaska	Zip - 99501			
c. Address- Private landowner					
City -	State -	Zip -			
d. Address-					
City -	State -	Zip -			
e. Address-					
City -	State -	Zip -			
26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.					
AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
See attached doc					
* Would include but is not restricted to zoning, building, and flood plain permits					
27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.					
 SIGNATURE OF APPLICANT		5/18/2015 DATE		SIGNATURE OF AGENT DATE	
The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.					
18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.					

BLOCK 15: LOCATION OF PROPOSED PROJECT

Latitude and longitude of the Project components associated with impacts due to the placement of fill material into wetlands or waters are presented in Table 1. Figure 1¹ presents the general Project location in Alaska; Figure 2 presents the location of all proposed Project components.

Table 1. Locations for Project components with fill impacts (NAD 83 Decimal Degrees, DD)

Project Component	N Latitude (DD)	W Longitude (DD)
Intake	60.46119	149.335195
Intake Access Road- start at Powerhouse Access	60.454471	149.351787
Intake Access Road- end at Grant Lake	60.460908	149.335398
Powerhouse Access Road- start at Seward Highway	60.457923	149.368212
Powerhouse Access Road- end at powerhouse	60.456989	149.350159
Powerhouse Parking	60.456992	149.351172

BLOCK 16: OTHER LOCATION DESCRIPTIONS

The proposed Project lies within the Kenai Peninsula Borough, Section 13 of Township 4 North, Range 1 West; Sections 1, 2, 5, 6, 7, and 18 of Township 4 North, Range 1 East; and Sections 27, 28, 29, 31, 32, 33, 34, 35, and 36 of Township 5 North, Range 1 East, Seward Meridian (U.S. Geological Survey [USGS] Seward B-6 and B-7 Quadrangles). The Project is located in the 6th Hydrologic Unit Code (HUC), Kenai Peninsula watershed, #190203.

BLOCK 17: DIRECTIONS TO THE SITE

Grant Lake is located in the Kenai Mountain Range one mile east of the Seward Highway near the community of Moose Pass, Alaska, 25 miles north of Seward (Figure 1). There are currently no access roads to the Project site. To access the Project area, cross the Trail Lake Narrows between Upper and Lower Trail Lakes, to where Grant Creek flows into the Narrows. The Project area extends along the south side of Grant Creek, to the east, for approximately one mile to Grant Lake.

¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in some of the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015a). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

BLOCK 18: NATURE OF ACTIVITY

Full details of the Project are described in the DLA (KHL 2015a). The Project will consist of the Grant Lake/Grant Creek development, an intake structure in Grant Lake, a tunnel, a surge chamber, a penstock, a powerhouse, tailrace channel with fish exclusion barrier, access roads, a step-up transformer, a breaker, an overhead transmission line, and a switchyard. The powerhouse will contain two Francis turbine generating units with a combined rated capacity of 5 MW with a maximum design flow of 385 cubic feet per second (cfs).

The general proposed layout of the Project and the location of Project components are shown in Figure 2. Specific proposed facility characteristics are listed in Table 2 and described in more detail below. Table 2 is modified from the DLA, Exhibit A (KHL 2015a), Table A.4-1. Detailed Project design figures are presented in the DLA (KHL 2015a) Exhibit F.

Table 2. Project component details.

Project Component	Details
Grant Lake	
Drainage Area	44.2 miles (mi) ²
Surface Area	1,703 acres
Average Annual Natural Outflow	206 cfs
Normal Maximum Lake Elevation	703 ft NAVD 88
Normal Minimum Lake Elevation	690 ft NAVD 88
Water Conveyance	
Intake	Intake structure at lake
Approximate dimensions of intake structure	20 ft x 38 ft
Invert Elevation	675 ft NAVD 88
<i>Bypass Pipe for Instream Flows</i>	
Type	Directional bore with HDPE liner
Length	900 ft
Diameter	18 in
<i>Lower Pressure Pipeline</i>	
Type	Welded steel
Length	200 ft
Diameter	48 in
<i>Pressure Tunnel</i>	
Type	10-ft horseshoe
Length	3,300 ft
Velocity at Maximum Turbine Discharge	3.9 fps
<i>Surge Chamber</i>	
Diameter	120 in
Base Elevation (preliminary)	680 ft NAVD 88
Top Elevation (preliminary)	785 ft NAVD 88
<i>Penstock</i>	
Type	Welded steel
Length	150 ft
Diameter	72 in
Tailrace	
Type	Open channel
Length	95 ft
Fish Exclusion Barrier	
Type	Picket barrier at tailrace outfall
Maximum Design Flow	385 ft
Tailrace Detention Pond	
Approximate Acreage	5 acres
Approximate Capacity	15 ac-ft
Powerhouse	
Approximate Dimensions	50 ft x 100 ft x 30 ft high
Finished Floor Elevation	523 ft NAVD 88
Powerhouse Parking Area	
Type	Gravel pad
Approximate Area	200 ft x 150 ft
Transmission Line	
Type	Overhead
Length	Approximately 3.5 miles
Voltage	115 kilovolt (kV)
Powerhouse Access Road	
Type	Two-lane gravel surfacing with turnouts
Width	24 feet
Length	One (1) mile from Seward Highway to powerhouse
Intake Access Road	
Type	Two-lane gravel surfacing with turnouts
Width	24 feet
Length	One (1) mile from the powerhouse to the intake

Grant Creek Diversion

The proposed Project consists of a reinforced concrete intake structure located on the south side of the natural lake outlet. No structural modifications would be made to the existing lake natural outlet. The Project will divert water up to a maximum of 385 cfs into the intake structure. When the lake level exceeds the natural outlet of 703 feet NAVD 88, a maximum of 385 cfs will be diverted into the intake structure and routed to the powerhouse. Flow in excess of 385 cfs would pass over the natural outlet to Grant Creek.

Grant Lake Intake

The Project water intake would be a concrete structure located approximately 500 feet east of the natural outlet of Grant Lake and adjacent to the shore. The intake structure consists of a reinforced concrete structure extending from approximately elevation 675 NAVD 88 feet up to a top deck elevation of 715 feet NAVD 88. The structure has an outside dimension of 38 feet by 20 feet. The structure includes intake trashracks, selective withdrawal intake gates with wire rope hoist, and a roller gate located on the water conveyance intake. The intake is divided into three bays, each fitted with an intake gate to provide flexibility for delivering the full flow range of 58 cfs to 385 cfs. The gate position within the water column will be set to deliver the required water temperature to Grant Creek below the powerhouse. The roller gate would be 11 feet tall by 11 feet wide and fitted with a wire rope hoist lift mechanism. Electrical power will be extended from the powerhouse to the intake to operate the intake and isolation gates. Pressure transducers will be installed to monitor the water level at the lake as well as within the intake tower. An access bridge 16 feet wide would be installed from the lake shore out to the intake structure.

The intake would allow for drawdown of Grant Lake to elevation 690 feet NAVD 88 thereby creating approximately 18,790 acre-feet of active storage for the project between elevations 703 feet NAVD 88 and 690 feet NAVD 88. The intake can be designed to allow the Project to draw water near the surface at various levels of storage, if deemed necessary to meet downstream temperature requirements. The invert of the intake would be at elevation 675 feet NAVD 88 to provide for adequate submergence to the tunnel.

A bypass pipe would extend from the intake structure to the base of the existing water fall in Grant Creek. The installed pipe would be 900 feet long and approximately 18 inches in diameter allowing the minimum flow ranging from 5 to 10 cfs to be released. A control gate would be located within the intake structure to regulate and monitor the bypass flow releases.

Tunnel and Surge Chamber

The intake structure would connect to a tunnel extending to the Project powerhouse. The tunnel would be approximately 3,300 feet long with a 10-foot-horseshoe shape. Drill and shoot techniques would be used to construct the tunnel using an entrance portal at the powerhouse for access. The lower 900 feet of tunnel would be constructed at a 15 percent slope. This section of the tunnel will be concrete lined. The upper 2,400 feet of tunnel would be constructed at a 1

percent slope and would be unlined. This proposed arrangement provides a low pressure hydraulic conduit in the upper tunnel reaches suitable for an unlined tunnel. A surge chamber is located at the transition between the two tunnel slopes. This chamber is approximately 10 feet in diameter and would extend from the tunnel invert elevation of 670 feet NAVD 88 to the ground surface at approximately elevation 790 feet NAVD 88. The surge chamber provides a non-mechanical relief for hydraulic transients that could occur if a load rejection occurs at the powerhouse. Rock anchors and shotcrete stabilization techniques would be used to stabilize the tunnel exposed rock surface where required. A rock trap would be located at the surge chamber location to collect dislodged rocks from the unlined tunnel section.

The tunnel would transition to a 6-foot diameter steel penstock approximately 150 feet from the powerhouse. The transition section would consist of a welded steel concentric structure which transitions from the 10-foot tunnel section to the 72-inch diameter penstock. A steel liner would extend from the downstream tunnel portal approximately 300 feet into the tunnel. The liner would be installed within the exposed rock surface with grout pumped behind the liner to provide an impermeable and structurally sound tunnel section. A similar steel tunnel liner section would be installed at the connection to the intake structure for a total distance of approximately 150 feet.

Penstock and Surge Chamber

A 72-inch diameter steel penstock extends 150 feet from the downstream tunnel portal to the powerhouse. The welded steel penstock would be supported on concrete pipe saddles along the penstock route. The penstock would bifurcate into two 48-inch diameter pipes feeding each off the powerhouse turbines. The penstock fitted with welded steel thrust rings would be encased in concrete thrust blocks at the tunnel portal as well as the powerhouse. These thrust blocks would be designed to resist the full hydraulic load associated with the Project operation. An interior and exterior coating system would be applied to the penstock providing full corrosion protection. An access manway would be provided on the exposed penstock section allowing access for future inspection and maintenance.

Tailrace

The powerhouse draft tubes would connect to a tailrace channel located on the north side of the powerhouse structure. The draft tubes would extend from a low point elevation of approximately 509 feet NAVD 88 up to the tailrace channel invert elevation of 515 feet NAVD 88. The channel would continue to the east bank of Grant Creek. Each of the draft tubes will be gated allowing the flow to be routed to the detention pond for spinning reserve operation. Isolation bulkheads would be provided allowing dewatering of the draft tubes for inspection and maintenance of the turbine. The tailrace channel would be trapezoidal in shape with a bottom width of 43 feet, side slopes of 2H:1V and a channel depth ranging from 13 feet at the powerhouse to 7 feet at the creek. A concrete structure would be constructed at the confluence of the channel and Grant Creek. A picket-style fish barrier would be placed on this concrete structure as well as provision for installation of stoplogs allowing the tailrace channel to be

dewatered for inspection and maintenance. The channel would be excavated from native material and lined with riprap to provide a long term stable section. A staff gage and pressure transducer will be placed in the channel to monitor the water level in the channel.

Tailrace Detention Pond

An off-stream detention pond would be created to provide a storage reservoir for flows generated during the rare instance when the units being used for spinning reserve are needed for the electrical transmission grid. In this situation, the additional powerhouse flows would be diverted into the detention pond and then released slowly back into Grant Creek. It is anticipated that the discharge associated with a spinning reserve event would be dispersed via the tailrace channel which flows into Grant Creek. The detention pond would be located immediately south of the powerhouse and would have a capacity of approximately 15 acre-feet and a surface area of approximately 5 acres.

Powerhouse and Parking Area

The powerhouse would be located on the south bank of Grant Creek immediately west of the downstream tunnel portal and adjacent to the detention pond. The powerhouse would consist of a concrete foundation and a pre-engineered metal building superstructure. The building would be approximately 100 feet long (east to west) and 50 feet wide (north to south). A gravel pad parking area would surround the powerhouse, with approximate dimensions of 150 x 200 feet.

The penstock would tie into the powerhouse on the south side and the tailrace channel on the north side of the building. The building floor would be set at approximately elevation 523 feet NAVD 88 and the centerline of the turbine runner at elevation 526 feet NAVD 88. The draft tube floor would be set at elevation 509 feet NAVD 88 with an operating tailwater inside the draft tubes ranging from 518.0 feet to 519.3 feet NAVD 88.

Two horizontal Francis type turbine/generator units with a rated total capacity of 5,000 kilowatt (kW) would be housed in the powerhouse structure. The powerhouse flow would range from a maximum of 385 cfs to a minimum of 58 cfs with each turbine operating flow ranging from 192.5 cfs to 58 cfs. Associated mechanical and electrical equipment would include hydraulic power units, turbine isolation valves, penstock drain, utility water system, lube oil system, oil water separator, battery system, and heating, ventilating, and air conditioning (HVAC) system. A control room housing the motor control center (MCC), communication rack, fiber optic panels, computers, and related equipment would also be provided. The Project switchgear would be located within the powerhouse. A standby generator, transformer, and fused pad mounted switch assembly would be mounted on an enclosed switchyard located on the south side of the powerhouse. Dewatering pumps would be provided to support dewatering of the turbine draft tubes. A 30-ton bridge crane would be provided for equipment maintenance. The crane would travel on rails mounted on the steel building support columns. An energy dissipation valve would extend off the penstock and provide bypass flows into the Project tailrace.

Transmission Line/Switchyard

An overhead 115-kilovolt (kV) transmission line will extend from the powerhouse to the existing 115-kV transmission line located on the east side of the Seward Highway. In addition to any overhead transmission structures, the facilities would include a switchyard at the powerhouse consisting of a 115-kV fused pad-mounted disconnect switch and a pad-mounted 115-kV GSU transformer. The transmission line would run from the powerhouse parallel to the access road where it would intersect Chugach Electric's transmission line. The interconnection would have a pole mounted disconnect switch.

Wooden poles would be designed as tangent line structures on about 250-foot centers. Design of the line would also incorporate the latest raptor protection guidelines. Collision avoidance devices would be installed on the line at appropriate locations to protect migratory birds.

Appurtenant Facilities

The following pertinent mechanical and electrical equipment will be applicable to the Project:

- Intake selective withdrawal intake gate
- Intake trashrack system
- Intake roller gate used to isolate the tunnel and downstream generation facilities
- Control gate located on the bypass pipeline pipe
- A 30-ton bridge crane in the powerhouse
- Pumps located in the power used to dewater the draft tubes
- Pressure transducers located throughout the project used to monitor the water level in the reservoir, tunnel and tailrace, as well as pressures in the tunnel and penstock
- Security cameras at the intake and powerhouse
- Sanitary waste holding tank at the powerhouse
- A power line extending from the powerhouse to the intake to supply electrical power to the gates and trashrack
- Temperature instrumentation at the intake structure and at various stream locations to monitor water temperature

This equipment along with other identified miscellaneous mechanical and electrical equipment will be developed during the final design and included in the construction documents.

Access Roads

The Project would require an access road to both the powerhouse located near the base of the Grant Creek canyon and to the intake at Grant Lake. The access road would be used to construct

the Project and, afterwards, to maintain the facilities. It is anticipated that the powerhouse would be visited approximately once a week and the intake visited approximately once a month beginning just after the ice melts and continuing until just before freeze up. The powerhouse access road would be maintained year around. The intake access road would not be maintained in winter.

The 24-foot wide access road would tie into the Seward Highway at approximately MP 26.9. The route would travel eastward to cross Trail Lakes at the downstream end of the narrows between Upper and Lower Trail lakes and then continue eastward to the powerhouse. This route would be approximately one mile long. It would cross the ARRC tracks near an existing railroad crossing for a private driveway. The road would cross the narrow channel connecting Upper and Lower Trail lakes with an approximately a 110-foot-long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The proposed route would avoid cuts and travel along the base of some small hills on the south side of Grant Creek to the powerhouse. This proposed access road would have one 90-degree crossing of the Iditarod National Historic Trail (INHT).

The intake access road would be approximately one mile long, beginning at the powerhouse. The road would ascend a 230-foot bluff to reach the top of the southern rim of the Grant Creek canyon. A series of road switchbacks would be required to maintain a road grade of less than 8 percent. The road would then generally follow the southern edge of the canyon until it descends to Grant Lake. A small parking area and turn-a-round area would be provided at the intake structure. A 16-foot wide bridge will extend from the bank out to the intake structure.

The road would be gravel with a 16-foot top width. Maximum grade would be 8 percent. Periodic turnouts would be provided to allow construction traffic to pass. These turnouts would not be constructed within wetlands or waters areas. Fifty-foot radius curves would be used to more closely contour around the small steep hills of bedrock to limit the extent of the excavation and the height of the embankments.

BLOCK 19: PROJECT PURPOSE

KHL is a wholly-owned subsidiary of Homer Electric Association, Inc. (HEA), a member-owned electric cooperative that serves 33,308 meters with 2,406 miles of energized line in a 3,166 square miles service area in Southcentral Alaska. Ninety-one percent of HEA's current generation needs (approximately 470,000 megawatt hour (MWh)/year) are met via fossil fuel generation. In recognition of the importance to the environment and the need to provide power for sustainable growth, HEA's Board of Directors adopted a policy (HEA Board Policy 505 – Renewable Portfolio Goal) that set a renewable energy goal. The goal states that the cooperative will use best efforts to meet 22 percent of its annual peak generation with renewable energy by 2018. Furthermore, the State of Alaska and Legislature have adopted a renewable energy goal of 50 percent renewable energy by 2025. Additionally HEA would like to diversify its fuel mix and reduce its dependence on the expensive natural gas supply (currently at \$6.90/Mcf) available in

the Cook Inlet Area. While approximately 9 percent of HEA's current generation needs are met through their stake in the Bradley Lake Hydroelectric Project, the operation of the Grant Lake Project would provide an additional 4 percent annually and represent KHL's first fully-owned hydroelectric facility. To meet this goal, feasibility studies were completed for three other potential projects, in addition to the Grant Lake Project: Falls Creek, Ptarmigan Lake, and Crescent Lake were evaluated. Based on these studies it was determined that the Grant Lake Project was the most practicable alternative to meet the energy needs of HEA's customers.

From a global perspective, Alaska has a significant dependence on fossil fuels for its current power demands. The obvious negative implications from an environmental perspective are directly related to greenhouse gas emissions. By incorporating hydroelectric generation into its portfolio, a commitment is being made to begin to reduce greenhouse gas emissions controlled by HEA.

Project construction is estimated to begin April 2018, and be completed October 2019. The Project will begin operation January 2020, and is expected to be in operation indefinitely. This schedule is based on current project and component execution planning and presently anticipated dates for receipt of permits and other regulatory approvals.

BLOCK 20: REASONS FOR DISCHARGE

This section details the reason for permanent or temporary fill discharge due to facilities and access roads. Figure 3 presents an overview of the locations of permanent fill to be placed within Project wetlands and waters. Figures 4 and 5 present the west and east halves of the Project corridor for a more detailed view of permanent fill areas. As presented in Table 2, Section 404 regulated project components (fill) include: intake structure, powerhouse parking, transmission line power poles, powerhouse access road, and intake access road, and culverts associated with the access roads. Individual proposed facility design drawings are provided in the DLA Exhibit F (KHL 2015a). See Block 21 Types of Material Being Discharged, Table 3 for further description of the area of fill material to be placed in wetlands or waters by Project component.

Permanent Placement of Fill

Access Roads

Approximately 1.93 miles of gravel roads will be constructed within the Project area. Permanent placement of gravel fill for the two gravel access roads (powerhouse road and intake access road) are required to provide a reliable year-round means to safely access and operate the proposed Project facilities. KHL anticipates utilizing a majority of the rock excavated from the tunnel for road construction. Additional gravel needed for other structures will be extracted off site. Project design engineers made all efforts to avoid crossing of wetland or waters where possible, however given the steep terrain along the access routes, in some areas there are no practicable routes to

completely avoid wetlands and waters. Block 18, Nature of Activity, above, provides a detailed description of the access roads, including the need for the roads for the Project, dimensions, and the timeframe of use each year.

Approximately 14 cross-drainage culverts with diameters of 12 to 36-inches will be installed in the roads to mitigate water impoundment upflow of the roads. The location and distance between the culverts will be determined by local hydrologic and topography features. Culvert number and dimensions will be refined as Project design advances from preliminary to final and as a road alignment is confirmed based on updated bathymetry and on-site conditions during construction.

Facilities

The proposed location of two Project facilities will require the permanent placement of fill into wetlands or waters: the intake at the outlet of Grant Lake and the powerhouse parking area. All other facilities will be placed in non-wetland or waters areas.

Placement of an intake structure within the energy-producing waterbody is instrumental for the development of any hydropower project. As such, the intake structure for this Project needs to be placed within Grant Lake (deepwater and shoreline area) to fulfill the Project goals. Of the options explored for the intake structure (e.g. a dam versus a low-level intake structure), the currently-proposed low-level intake structure will require the least amount of fill (concrete) to be placed within Grant Lake.

The location of the powerhouse was selected for both its proximity to the base of the bypass reach of Grant Creek and its location at the base of the steep section where the head is generated for power production. “Reach 5” of Grant Creek is the section of the creek that will be designated the bypass reach. That is to say that flows in this section will be decreased as a result of the Project diverting water from Grant Lake through the aforementioned intake, down a tunnel, through the penstock and into the powerhouse. Per the DLA, this reach contains minimal habitat for the aquatic species present. The powerhouse (and associated powerhouse parking area) will be placed adjacent to Grant Creek to provide direct access for return of the diverted water to the creek with minimal impact to the flow regime downstream in the more habitat rich Reaches 1-4 and associated side channels.

Transmission Line Poles

The transmission line will be an overhead, 115-kV line located along the proposed powerhouse access road. Individual pole locations have not yet been identified. The locations where poles result in temporary or permanent impact will be identified in the production of the design documents (plans and specifications).

Temporary Placement of Fill

Temporary fill or ground disturbance within wetlands or waters is expected to occur at the Grant Lake shore, associated with construction of the intake structure and directional drilling of the tunnel and the bypass pipe. As part of intake construction and directional drilling of the tunnel and the bypass pipe, temporary fill will be placed for construction of a landing/access area along approximately 100 feet of Grant Lake shoreline. At the completion of construction, this filled area will become the east end of the intake access road. Dredged or bored material resulting from the boring of the tunnel and bypass pipe will not be stockpiled in a wetland or water.

Additionally, ground disturbance and temporary storage associated with the construction of roads or Project facilities will be associated with existing permanent fill areas; therefore no ground disturbance or temporary storage will occur in wetland or waters areas.

BLOCK 21: TYPES OF MATERIAL BEING DISCHARGED

Table 3 details the estimated material discharges (volume and type) per Project component, estimated as of the writing of this report. Figures 3, 4 and 5 present the locations of fill to be placed within Project wetlands and waters. An estimated 830 cy of concrete and approximately 8,265 cy of gravel fill will be placed in Grant Lake and shoreline areas for gravel fill. KHL anticipates utilizing a majority of the rock excavated from the tunnel for road construction. Additional fill needed for other structures will be extracted off site. This fill volume calculation does not include potential fill in wetlands or waters due to transmission line poles, the locations of which are to be determined. Any changes to material volumes to be placed within wetlands or waters will be addressed through a written addendum to this application.

Table 3. Material volumes to be placed in wetlands and waters

Project Component	Placement Volume (cy)	Affected Acres	Affected Linear Feet	Type of Material
Intake	830	0.05	0.00	Concrete
Intake Access Road	420	0.03	144.01	Gravel fill
Powerhouse Access Road	6,855	0.35	323.20	Gravel fill
Powerhouse Parking	990	0.06	81.79	Gravel fill
Transmission line poles	TBD	TBD	0.00	Wood
Totals	9,095.00	0.49	549.00	

BLOCK 22: SURFACE AREA OF WETLANDS OR OTHER WATERS FILLED

Figures 3, 4 and 5 present the locations of fill to be placed within Project wetlands and waters, as of the writing of this application. Table 4 presents the acres of fill that will be permanently placed in wetlands or waters. Fill areas were calculated as the entire fill volume for each Project feature, based on the area of the toe of the slope of gravel fill. Fill areas are labeled on Figures 3, 4 and 5 with the Impact ID presented in Table 4. Areas of fill in intermittent and perennial streams are too narrow to view at the scale of the figures.

A total of 0.49 acres of wetlands and waters, and 549 linear feet of waters will be filled as part of the Project (Table 4). This fill area calculation does not include potential fill in wetlands or waters due to transmission line poles, the locations of which are to be determined. Each wetland or water to be filled by a given Project component was assigned an impact identification number (presented in Table 4) for reference on Figure 3. Project infrastructure and facilities are expected to change slightly, but not significantly, prior to Project construction. Any changes to fill within wetlands or waters will be addressed through a written addendum to this application.

Table 4. Permanent Fill by Wetland/Water Type

Wetland/ Water Type	HGM Position	Functional Class ¹	NWI Class/ Subclass	Category ²		Fill by Project Component (Acres)					
					Impact ID	Intake	Intake Access Rd	Powerhouse Access Rd	Powerhouse Parking	Poles	Total
Scrub-Shrub Wetland	Depressional	Palustrine broadleaved evergreen scrub-shrub and emergent mixed wetlands ²	PSS3/EM1	II	F1	/	/	0.055	/	TBD	0.055
		Palustrine needle leaved and broadleaved evergreen scrub- shrub and emergent mixed wetland	PSS4/3/EM1	II	F2	/	/	0.051	/	TBD	0.051
		Palustrine deciduous scrub- shrub wetlands	PSS1	II	F3	/	/	0.004	/	TBD	0.004
		Palustrine deciduous scrub- shrub and emergent mixed wetlands	PSS1/EM1	II	F4	/	/	0.165	/	TBD	0.165
	Riverine	Palustrine deciduous scrub- shrub and emergent mixed wetlands	PSS1/EM1	II	F5	/	/	0.064	/	TBD	0.064
			PSS1/EM1	II	F6	/	/	/	0.057	TBD	0.057
			PSS1/EM1	II	F7	/	0.016	/	/	TBD	0.016
	Lacustrine	Palustrine deciduous scrub- shrub wetlands	PSS1	II	F8	/	0.005	/	/	TBD	0.005
			PSS1	II	F9	0.004	/	/	/	TBD	0.004
	Open Water	Lacustrine	Unvegetated shallow water	L2UB	II	F10	0.005	/	/	/	TBD
Unvegetated deep water			L1UB	II	F11	0.036	/	/	/	TBD	0.036
Intermittent Stream	Riverine	Unvegetated intermittent streams	R4SB	II	Int1	/	/	0.003	/	TBD	0.003
			R4SB	II	Int2	/	/	0.008	/	TBD	0.008
			R4SB	II	Int3	/	0.001		/	TBD	0.001
			R4SB	II	Int4	/	/	0.004	/	TBD	0.004
			R4SB	II	Int5	/	/	/	0.004	TBD	0.004
			R4SB	II	Int6	/	0.001	/	/	TBD	0.001
			R4SB	II	Int7	/	0.001	/	/	TBD	0.001
Perennial Stream	Riverine	Unvegetated perennial streams	R3UB	II	Per1	/	0.002	/	/	TBD	0.002
			R3UB	II	Per2	/	0.001	/	/	TBD	0.001
			Total Acres Fill			0.045	0.028	0.354	0.060	TBD	0.49
			Percent of Total Acres Fill			9.3	5.8	72.5	12.4		100.0

1: Functional classes are from the Terrestrial Resources Report (KHL 2014a).

2: Mitigation categories were originally presented in the Terrestrial Resources Report. Category assignments were subsequently revised to reflect new USACE category definitions developed in 2014. Hence all wetlands/waters were assigned to category II based on the revised definitions. The "palustrine broadleaved evergreen scrub-shrub and emergent mixed wetland" functional class was assigned to category III in the Terrestrial Resources Report; this was the only functional class with fill impacts to be upgraded from category III to category II.

BLOCK 23: DESCRIPTION OF AVOIDANCE, MINIMIZATION, AND COMPENSATION (MITIGATION STATEMENT)

This section details how the Project planning process has avoided and minimized impacts to wetlands and other waters of the U.S. for the proposed Grant Lake Hydroelectric Project; and how unavoidable impacts will be compensated. The following response addresses Block 23 in the 404 Application as well as the ‘Mitigation Statement’ requirements in accordance with the 2008 Final Mitigation Rule (USACE 2008). Italicized text is taken directly from the USACE document, “Applicant Proposed Mitigation Statements” which provides guidance on what should be provided as part of a mitigation statement.

In addition to the impact avoidance and minimization measures associated with specific Project components presented below, best management practices (BMP) will be strictly followed throughout construction and operation of the Project. KHL and all subcontractors will follow the BMPs listed in the USACE document *General Best Management Practices for Projects in Waters of the U.S.*, presented in Appendix A.

Avoidance of impacts to waters of the U.S., including wetlands

Please describe how, in your project planning process, you avoided impacts to waters of the U.S., including wetlands, to the maximum extent practicable. Examples of avoidance measures include site selection, routes, design configurations, etc...

The Project components and access routes have been positioned to avoid wetlands, streams, and lakes to the greatest extent practicable. Project features have also been designed to minimize footprint and yet safely and practically implement the Project. A summary of specific measures taken to avoid impacts to wetlands and waters is provided below.

- *Grant Creek diversion*: no dam will be built to divert water at the Grant Lake outlet, and no structural modifications would be made to the existing lake natural outlet.
- *Tunnel*: the tunnel will be directionally drilled from the intake structure to the penstock/powerhouse which will create less impact than trenching and placement of the tunnel. Material from tunnel drilling will not be stockpiled in a wetland or water, or where the stockpile could cause sedimentation into a wetland or water.
- *Tailrace*: the tailrace will be excavated into a non-wetland area along Grant Creek; it will be armored with riprap to avoid erosion and sedimentation into Grant Creek.
- *Access bridge*: the bridge across the Trail Lake Narrows will be a 110-foot long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The east abutment fill will not be placed within the Narrows, and there are no wetlands on the east side of the Narrows.

Minimization of unavoidable impacts to waters of the U.S., including wetlands

Please describe how your project design incorporates measures that minimize the unavoidable impacts to waters of the U.S., including wetlands, by limiting fill discharges to the minimum amount/size necessary to achieve the project purpose.

Project BMPs will be developed for multiple resource areas for the purpose of minimizing impacts to wetlands and waters, including minimizing erosion potential and sediment deposition related to construction and maintenance of water quality, and to ensure no impact to any sensitive plants or promotion of invasive plant species associated with construction and operations.

The following management plans and measures will be developed to minimize impacts to wetlands and waters. Management plans will include specific BMPs to be implemented during project construction and operations to minimize project impacts.

- **Vegetation Management Plan:** Describes methods to both minimize invasive plant development in the Project area and maintain existing populations of sensitive species documented during licensing studies
- **Water Protection Quality Measures**
 - Hazardous Materials Containment/Fuel Storage Plan Measures
 - Spill Prevention, Control and Containment Plan (SPCCP) Measures
- **Erosion and Sediment Control Plan:** Description of measures to be implemented during construction to minimize erosion and sediment deposition associated with construction activities

For Project components where impacts to wetlands and waters were unavoidable, a summary of specific measures taken to minimize impacts is provided below.

- *Grant Lake intake:* the low level intake structure will maintain the natural maximum lake level. Detailed studies were conducted to determine the optimal level from which to draw water to maintain the natural thermal and chemical regime in Grant Creek.
- *Detention pond:* the detention pond will use a natural wetland feature rather than excavating and constructing a new pond feature. This approach reduces construction impact to wetlands and non-wetlands, as well as reduces the dredging of and placement of fill into a wetland.
- *Powerhouse and parking area:* the powerhouse itself will not be placed in a wetland or water. Gravel fill associated with the parking area will be placed in a wetland associated with the intermittent outlet of the detention pond wetland, as well as in the outlet stream itself.
- *Transmission line:* the overhead transmission line will run directly adjacent to the powerhouse access road, which will allow for overlap of impact areas during construction and operation, such as permanent vegetation clearing that will be required for both the road and the transmission line.

- **Access roads:** in addition to general routing to minimize crossing of wetlands and waters, the access roads have been designed to minimize impacts in the following ways:
 - Cross-drainage culverts will be installed at each mapped intermittent or perennial stream along the route, as well as any other ephemeral drainage swales to avoid ponding and allow water movement under the roads. The culverts will be properly sized to convey all foreseeable storm or runoff events, to avoid erosion of the road bed, and sedimentation into associated or downstream wetlands and waters.
 - The road surface will be gravel rather than pavement, providing a permeable surface that will allow for a certain amount of infiltration, reducing runoff from the road surface. This permeability will be balanced by the need to provide a stable road bed that does not easily erode during storm events or spring runoff, minimizing sedimentation and turbidity in streams and wetlands.
 - Traffic on the roads will be minimal,² minimizing dust and the potential for vehicle contaminants to enter wetlands or waters, as well as reducing maintenance requirements. It is anticipated that the powerhouse road will be traveled once per month, year round. The intake road will be traveled once per month from spring through fall, and would not be maintained in winter.

Compensation for unavoidable impacts to waters of the U.S., including wetlands

Please describe your proposed compensatory mitigation to offset unavoidable impacts to waters of the U.S., or, alternatively, why compensatory mitigation is not appropriate or practicable for your project. Compensatory mitigation involves actions taken to offset unavoidable adverse impacts to waters of the U.S., including wetlands, streams and other aquatic resources (aquatic sites) authorized by Corps permits. Compensatory mitigation may involve the restoration, enhancement, establishment (creation), and/or the preservation of aquatic sites. The three mechanisms for providing compensatory mitigation are mitigation banks, in-lieu fee of mitigation, and permittee-responsible mitigation. Please see the definitions for additional information.

Wetland and Waters Functional Assessment and Categorization

The functions of wetlands and waters within the wetland assessment area were assessed as part of the 2013 wetland and waters study; results of the functional assessment are presented in the Terrestrial Resources Report (KHL 2014). Wetlands were also assigned to a category based on wetland functions, and condition, based on the USACE category definitions in use at the time of the writing of the report, which followed those presented in USACE's Alaska District Regulatory

² KHL intends to evaluate public input related to the Project access road prior to determining whether the road is open to the public or restricted access to KHL for Project operations only. The level of use of this road will be determined by this process.

Guidance Letter (RGL) 0901 (USACE 2009). In May, 2014, USACE published revised category definitions, which distill the previous four categories, into three categories. The updated definitions from the USACE document titled [HOWWetlandCategoriesRatios.pdf](#) "Ratios for Compensatory Mitigation", May 1, 2014 (USACE 2014), are provided in Table 5.

Under the RGL 0901 definitions the Project area wetlands and waters were assigned to both categories II and III. Based on the new definitions (Table 5), all wetlands, as well as waters (which were not previously categorized) would be appropriately categorized as category II wetlands.

Table 5. Definitions of functional categories, updated by USACE May 2014

Category	USACE Updated Definition
I	These are wetlands that: 1) provide habitat for threatened or endangered species that has been documented; 2) represent a high quality example of a rare wetland type; 3) are rare within a given region; 4) provide habitat for very sensitive or important wildlife or plants; and/or 5) are undisturbed and contain ecological attributes that are impossible or difficult to replace within a human lifetime, if at all. Examples of the latter are mature very productive forested wetlands unique to an ecoregion that may take a century to develop, and certain bogs and fens with their special plant populations that have taken centuries to develop. The position and function of the wetland in the landscape plays an integral role in overall watershed health.
II	These wetlands can be important for a variety of wildlife species and can be critical for the watershed depending on where they are located. In contrast to Category I wetlands, Category II wetlands do not provide critical habitat for any T&E species or species of concern. Generally these wetlands are pristine, not fragmented; common but more productive and sustain higher biodiversity compared to Category III wetlands.
III	These wetlands are usually plentiful in the watershed often with the least biodiversity. Category III wetlands are not rare or unique and overall productivity and species diversity are relatively low. These wetlands may be impacted by man (or by fire or other natural events) and are not considered to be "pristine" examples and as a result, in some cases require less than 1:1.

Proposed Compensation for Impacts

The USACE's preferred method of compensatory mitigation is through mitigation banking, followed by in-lieu fee of mitigation (ILF), and permittee-responsible mitigation. The use of a mitigation bank is not an option, as there are currently no established mitigation banks that service the watershed where the Project is located (HUC6 Kenai Peninsula 190203). The closest mitigation banks are located in the Municipality of Anchorage and in the Mat-Su Borough. Permittee-responsible mitigation is also not being considered, due to a lack of interest by KHL to undertake a mitigation project, and the lower preference by USACE for permittee-responsible mitigation. As such, ILF is proposed as the method for compensatory mitigation for the Project.

ILF programs typically provide two options for wetland/waters mitigation, 1) rehabilitation or enhancement of degraded wetlands/waters, or 2) preservation of wetlands/waters. In Alaska, the option of using the ILF rehabilitation or enhancement is limited to select areas (e.g. Municipality of Anchorage and the Mat-Su Borough), and is not available in the Project watershed service

area. Therefore, we propose the use of ILF through preservation of off-site wetlands/waters as the mechanism of compensatory mitigation. The Conservation Fund (TCF) is the only USACE-approved ILF provider for the service area.

Table 6 presents the total impacted acres, proposed exchange ratio, and required credits for the impacts to wetlands and waters. Per the most up to date USACE ratios for compensatory mitigation (USACE 2014), the ratio for mitigation using preservation for category II wetlands is 2:1. Therefore to mitigate for the loss of 0.49 acres of wetlands/waters, the Project would require 0.98, or approximately 1 mitigation credit. This is further divided into impacted acres and credits required by HGM type, which TCF uses to determine the specific type of wetland or water that will be preserved for the ILF mitigation.

Table 6. Proposed Project mitigation ratios and ILF preservation credit requirements in acres

HGM Type¹	Total Impacted Acres	Proposed Exchange Ratio²	Credits Required
Depressional	0.28	2:1	0.55
Riverine or lacustrine	0.21	2:1	0.43
Totals	0.49		0.98

1: HGM groupings are used by the ILF provider to determine cost per credit

2: Ratio for category II wetlands/waters using ILF preservation, per USACE 2014 ratios. All Project wetlands/waters are considered category II.

BLOCK 26: LIST OF OTHER CERTIFICATES OR APPROVALS/DENIALS RECEIVED

Table 7 lists the regulatory actions that will be applied for prior to construction in order for the Project to be properly permitted and certified. Additional permits or certifications may be required as the Project licensing process continues.

Table 7. Key Regulatory Actions

Agency	Permit
Federal	
Federal Energy Regulatory Commission	Hydropower License
U.S. Army Corps of Engineers	Clean Water Act Section 404
U.S. Forest Service	Special Use Permit
State	
Alaska Department of Environmental Conservation, Division of Water	Section 401 Water Quality Certification Waiver
Alaska Department of Natural Resources	Land Use Permits
	Temporary Water Use
Alaska Department of Fish and Game	Fish Resource
	Fish Habitat
Alaska Department of Natural Resources, State Historic Preservation Office	Section 106 Clearance

REFERENCES

- KHL (Kenai Hydro, LLC). 2014. Grant Lake Hydroelectric Project (FERC No. 13212). Terrestrial Resources, Final Report. Prepared by McMillen LLC for Kenai Hydro, LLC. June 2014.
- . 2015a. Draft License Application for the Grant Lake Hydropower Project FERC No. 13212. Exhibits A, E, F and G. March 2015.
- . 2015b. Jurisdictional Determination Report for Wetlands and Other Waters of the U.S. Grant Lake Hydropower Project FERC No. 13212. Prepared for the U.S. Army Corps of Engineers by KHL. May 2015.
- USACE (U.S. Army Corps of Engineers). 2008. Compensatory Mitigation for Losses of Aquatic Resources, Final Rule. 33 CFR Parts 325 and 332.
- . 2009. Alaska District Regulatory Guidance Letter, RGL No. 09-01. Guidance on Alaska District implementation of the Federal Rule on Compensatory Mitigation for Losses of USFS (U.S. Forest Service). 1984. Birds of the Chugach National Forest. Alaska Region Leaflet Number 69. Chugach National Forest, Anchorage, Alaska. 19 pp.
- . 2014. Ratios for Compensatory Mitigation. Pdf document titled "HOWWetlandsCategoriesRatios.pdf". May 1, 2014.

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FIGURES

Map features are derived from photogrammetric mapping, site surveys, and civil engineering data. Features are displayed using the Alaska State Plane Coordinate System, Zone 4 (FIPS 5004) projection and North American Datum 1983 (NAD 83) datum. Elevation information is based on NAVD 88.

Figure 1. Location map of Project vicinity³

Figure 2. General Project features and facilities

Figure 3. Fill impacts to wetlands and waters- Overview

Figure 4. Fill impacts to wetlands and waters- West

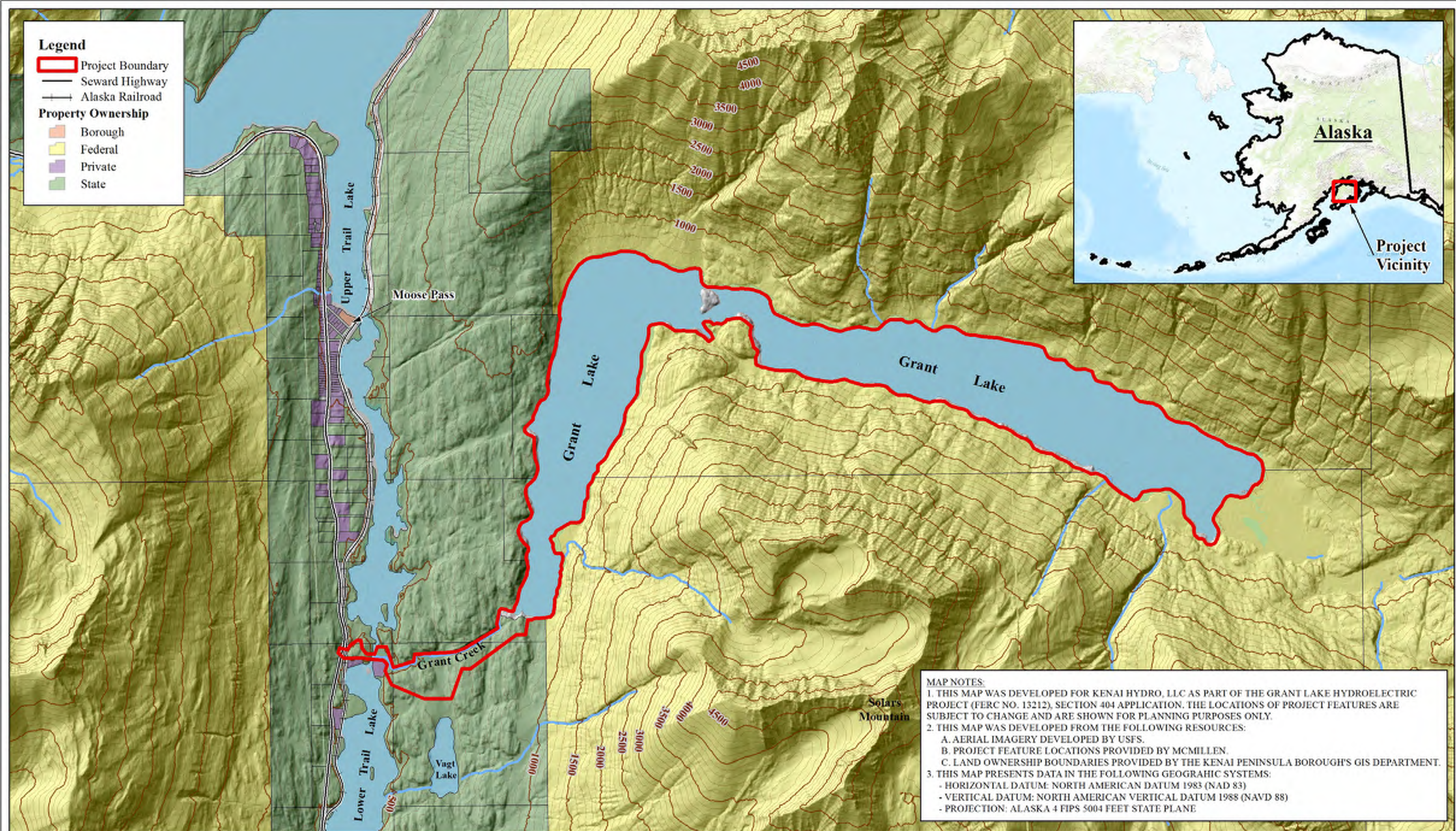
Figure 5. Fill impacts to wetlands and waters- East

Project Design Figures are presented in the Draft License Application (DLA) for the Grant Lake Hydropower Project (KHL 2015a) Exhibit F. The list of design figures is presented below.

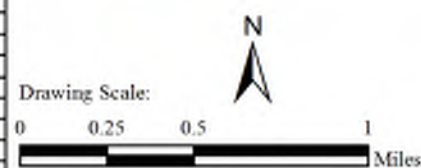
- F-1 Overall Project Site Plan and Drawing List
- F-2 Hydraulic Profile and Design Criteria
- F-3 Generation Facilities – Area Plan
- F-4 Intake Plan and Profile
- F-5 Intake Cofferdam Plan and Profile
- F-6 Intake Structure – Plan
- F-7 Intake Structure – Sections
- F-8 Tunnel – Plan and Profile
- F-9 Tunnel – Sections and Details
- F-10 Tunnel Portal – Plan, Profile, and Section
- F-11 Penstock – Plan and Profile
- F-12 Penstock – Sections and Details
- F-13 Powerhouse – Area Plan
- F-14 Powerhouse – Plan
- F-15 Powerhouse – Elevations
- F-16 Powerhouse – Sections
- F-17 Tailrace Channel – Plan and Profile
- F-18 Tailrace Channel – Sections
- F-19 Detention Pond – Plan and Section

³ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015a). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

F-20	Bypass Directional Boring Pipe – Plan and Profile
F-21	Intake Access Road – Plan and Profile
F-22	Powerhouse Access Road – Plan and Profile
F-23	Bridge – Plan, Elevation, and Section
F-24	Access Roads – Typical Details
F-25	Interconnection One-Line Diagram
F-26	Powerhouse One-Line Diagram
F-27	Transmission Line Route
F-28	Transmission Line Details



REV	DATE	BY	DESCRIPTION



MCMILLEN, LLC

THE SONNA BUILDING
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Developed For:



GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

SECTION 404 APPLICATION

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

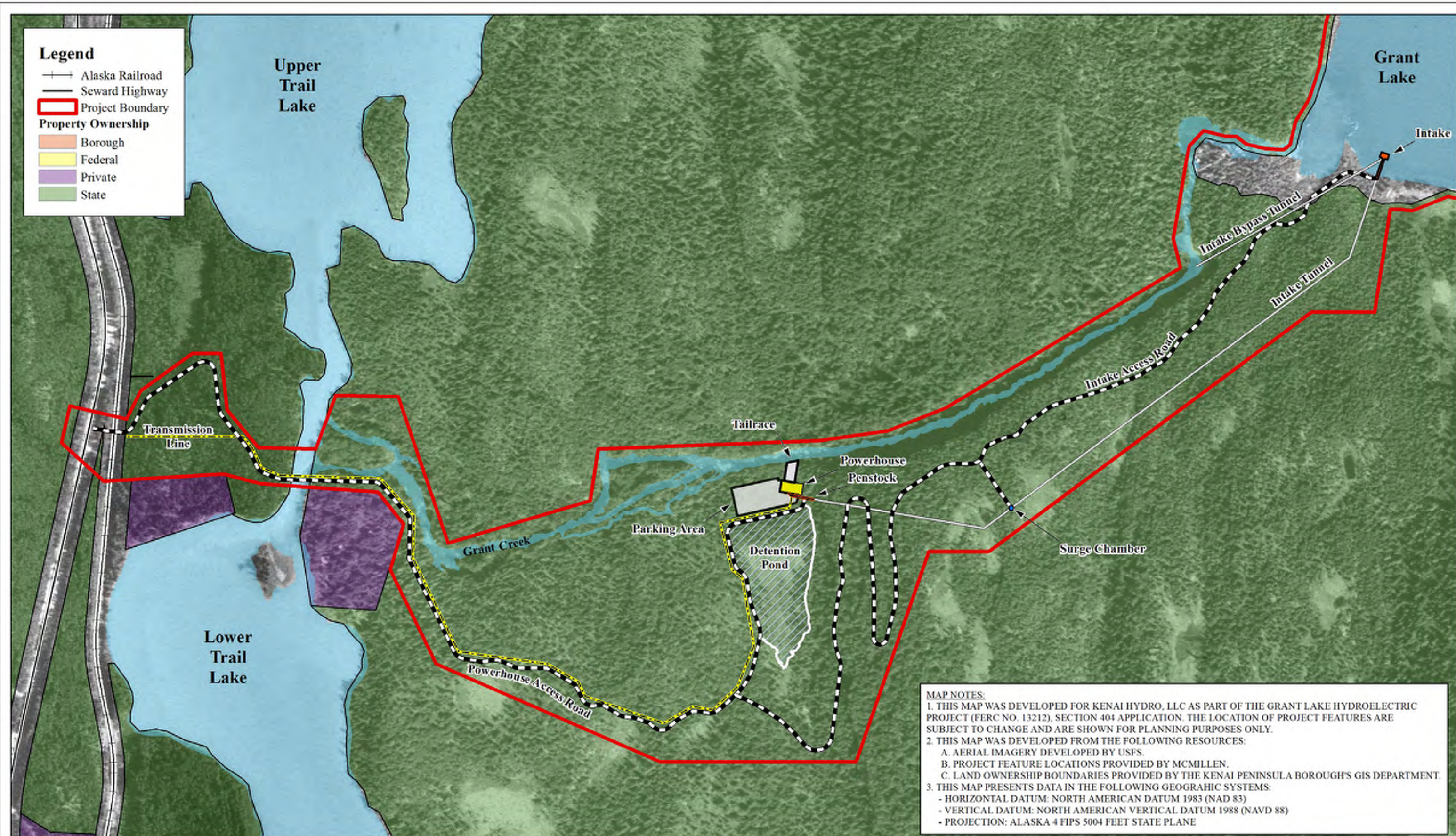
DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 5/4/2015

DRAWING

SCALE: 1:35,000



REV	DATE	BY	DESCRIPTION



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HEA Homer Electric Association, Inc.

A "Toothsome Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

SECTION 404 APPLICATION

Figure 2
General Project Features And Facilities

DESIGNED: Jake Woodbury

DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 5/4/2015

SCALE: 1:5,000

MAP NOTES:
1. THIS MAP WAS DEVELOPED FOR KENAI HYDRO, LLC AS PART OF THE GRANT LAKE HYDROELECTRIC PROJECT (FERC NO. 13212), NATURAL RESOURCES STUDY DOCUMENTATION. THE LOCATION OF PROJECT FEATURES IS SUBJECT TO CHANGE AND IS SHOWN FOR PLANNING PURPOSES ONLY.
2. THIS MAP WAS DEVELOPED FROM THE FOLLOWING RESOURCES:
A. AERIAL IMAGERY DEVELOPED BY USFS.
B. WETLAND TYPES AND STUDY AREA BOUNDARIES WERE DRAWN BY ERM, INC 2013.
C. PROJECT FEATURE LOCATIONS PROVIDED BY KENAI HYDRO, LLC.
3. THIS MAP PRESENTS DATA IN THE FOLLOWING GEOGRAPHIC SYSTEMS:
- HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83)
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)
- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE

Legend

Seward Highway

Alaska Railroad

Access Roads

Transmission Line

Tunnel

2014 Wetland Assessment Area (WAA)

Project Fill

Fill in Wetlands/Waters

Wetlands and Waters

Hydrogeomorphic Type

Depressional

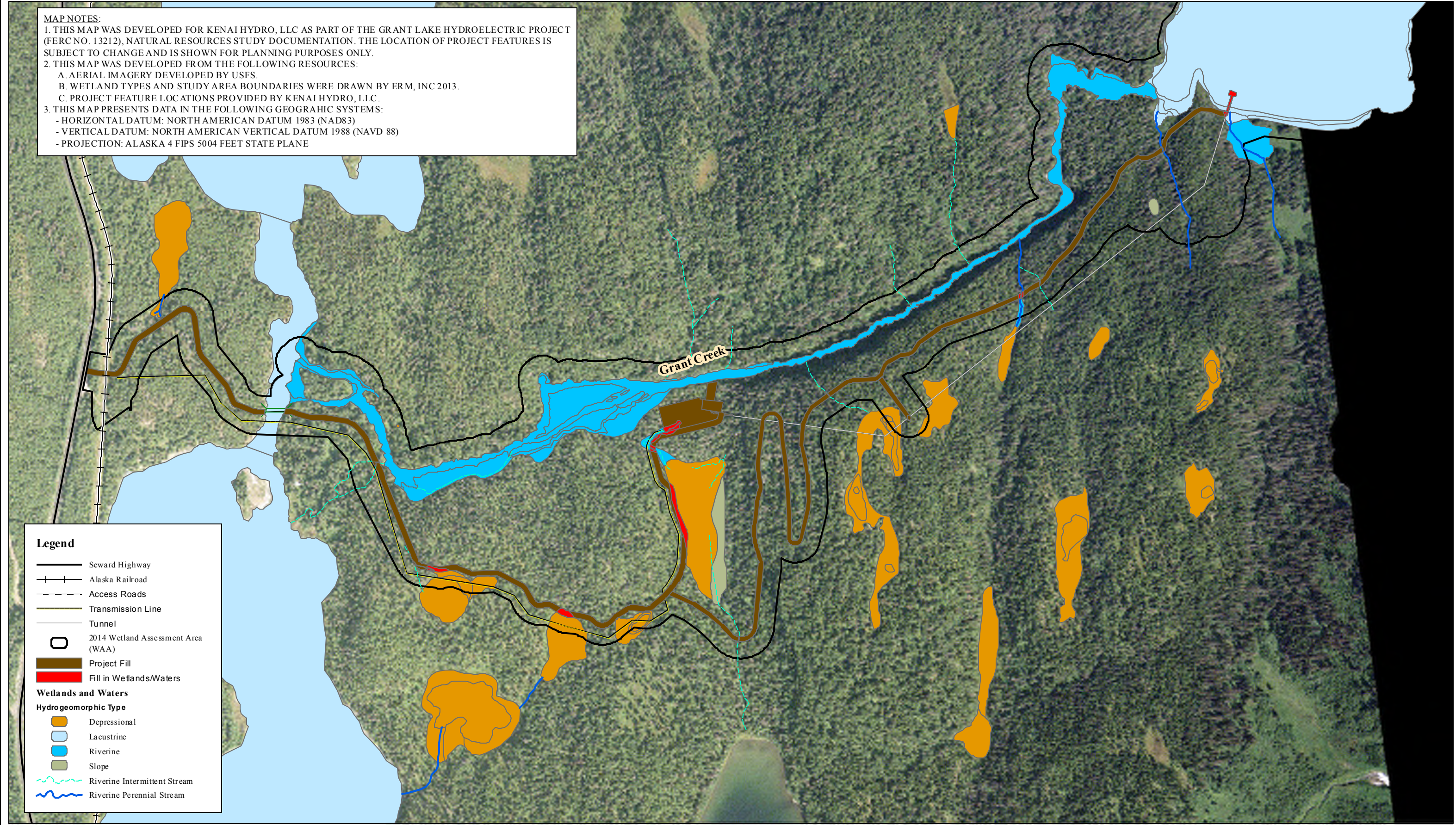
Lacustrine

Riverine

Slope

Riverine Intermittent Stream

Riverine Perennial Stream



REV	DATE	BY	DESCRIPTION	

N

Drawing Scale:

0

250

500

1,000

Feet

McMILLEN, LLC

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Developed For:

HEA

Homer Electric Association, Inc.

A "Touchstone Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

SECTION 404 APPLICATION

Figure 3
Wetland/Waters Fill Areas- Overview

DESIGNED M. Hjortsberg

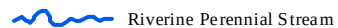
DRAWN M. Hjortsberg

CHECKED L. Shoutis

ISSUED DATE 3/5/2015

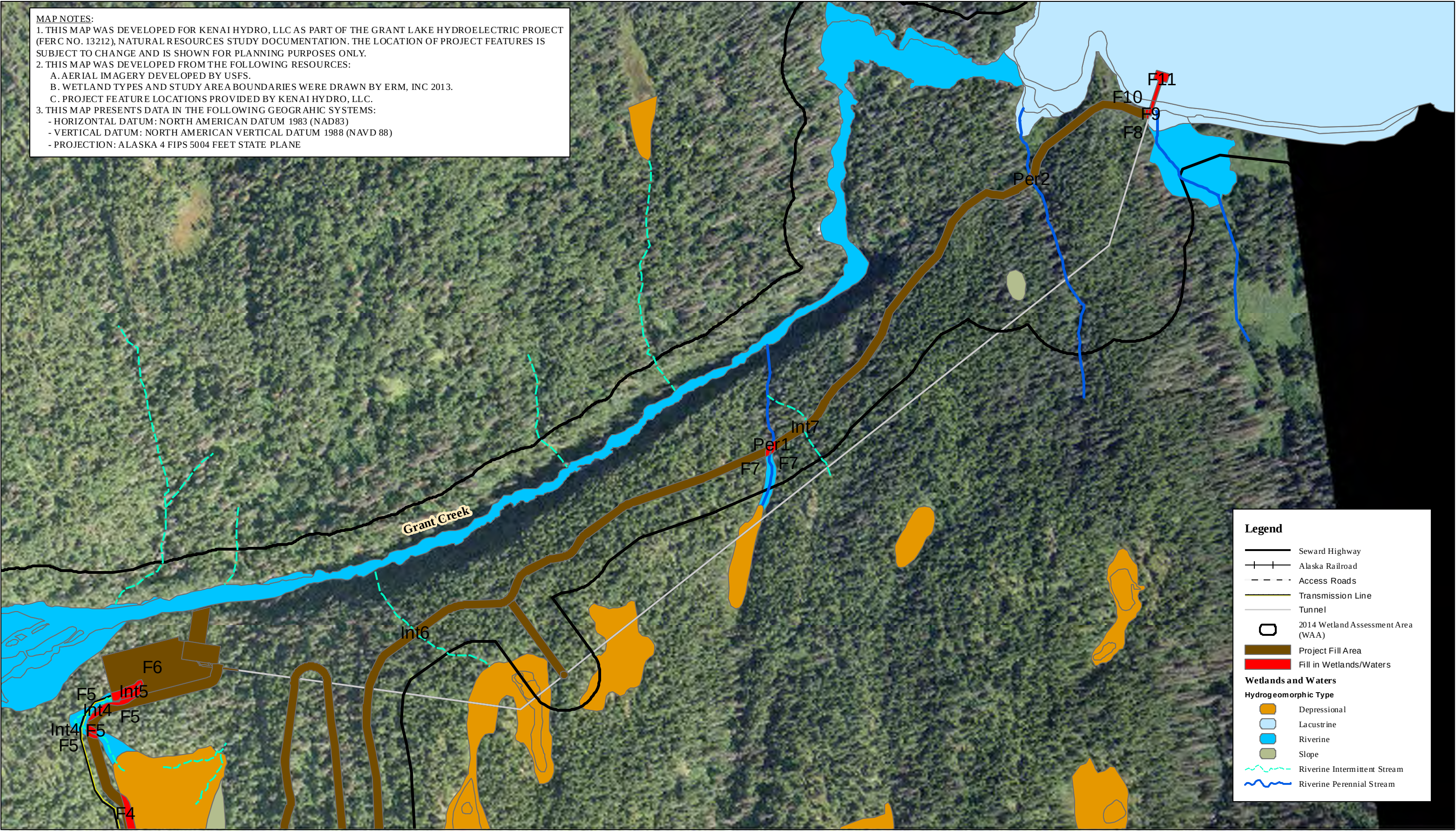
SCALE: 1"=5,500'

- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE



DESIGNED <u>M. Hjortsberg</u>	
DRAWN <u>M. Hjortsberg</u>	
CHECKED <u>L. Shoutis</u>	
ISSUED DATE <u>12/19/2014</u>	
SCALE: 1:5,500	

MAP NOTES:
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C. PROJECT FEATURE LOCATIONS PROVIDED BY KENAI HYDRO, LLC.
3. THIS MAP PRESENTS DATA IN THE FOLLOWING GEOGRAPHIC SYSTEMS:
- HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83)
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)
- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE



REV	DATE	BY	DESCRIPTION	

N

Drawing Scale:
02505001,000
Feet

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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

SECTION 404 APPLICATION

Figure 5

Wetland/Waters Fill Areas- East

DESIGNED M. Hjortsberg

DRAWN M. Hjortsberg

CHECKED L. Shoutis

ISSUED DATE 12/19/2014

SCALE: 1:5,500

APPENDIX A

USACE General Best Management Practices (BMP) for Project in Waters of the U.S.

GENERAL BEST MANAGEMENT PRACTICE (BMP) FOR PROJECTS IN WATERS OF THE U.S.

BMPs are policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. Using BMPs does not exonerate an operator from permit conditions.

Work in Open Water (fresh and marine)

- Silt and sediment from excavation and fill activities may not enter waterbodies outside the project footprint. Where practicable, fill material must be free from fine material that is subject to erosion and suspension. Site preparation, excavation, fill placement, and construction activities must be conducted to prevent, minimize, and contain the erosion and suspension of fine material that could be carried off-site by surface runoff. If suspended material is evident in standing or flowing water outside the project footprint, appropriate control and containment measures must be applied. These measures may include slope stabilization, revegetation, filter fabric fences, straw bales, other effective filters or barriers, fiber matting, settling ponds, drainage control, trenches and water bars, waterproof covers over material piles and exposed soils, avoiding work during heavy precipitation, and other appropriate measures. Disturbed ground and exposed soil not covered with fill, structures, or appurtenances must be stabilized and revegetated in an appropriate and timely manner to minimize erosion and sedimentation, so that a durable vegetative cover is established and maintained.
- Project limits of authorized sites shall be clearly identified in the field (e.g., staking, flagging, silt fencing, use of buoys, existing footprint for maintenance activities, etc.) prior to clearing and construction to ensure avoidance of impacts to waters of the U.S. (including wetlands) beyond project footprints.
- Activities that include the construction and maintenance of intake structures must include adequate fish screening devices to prevent the entrainment or capture of fish.
- The authorized structure, pipe, or associated fill shall not impede flood flows. To the extent practicable, excavation equipment shall work from an upland site (e.g., the top of the bridge or culverted road crossing) to minimize adding fill into waters of the U.S. If it is not practicable to work from an upland site, excavation equipment must minimize disturbance to the channel or stream bank and bottom (other than the removal of accumulated sediments or debris).
- Silt fences, silt curtains, or other diversion or containment structures shall be installed to contain sediment and turbidity at the work site (a) parallel to and within 10 feet of the toe of any fill, or soil exposed within 25 feet of a standing or flowing waterbody, if the fill site has a downslope or surface connection to the waterbody; and (b) adjacent to any fill placed or soil exposed within a standing or flowing waterbody. All silt fences, curtains, and other structures must be installed properly and maintained in a functioning manner for the life of the construction period where fill material and

exposed soils might cause transport of sediment or turbidity beyond the immediate construction site.

- When conditions are favorable the use of trenchless technology is shall be employed for crossings of the aquatic environment.
- Activities in breeding areas for migratory waterfowl, spawning areas, or areas of concentrated shellfish populations must be avoided to the maximum extent practicable.
- Locate all extra work areas at least 50 feet away from water's edge and wetlands. Utilize previously disturbed areas before open ground and open ground before forested areas.
- For stream crossings, maintain adequate flow rates during the project to protect aquatic life, and prevent the interruption of existing downstream uses.
- Design, construct and maintain equipment bridges to maintain unrestricted flow and to prevent soil from entering the water body.
- Remove equipment bridges as soon as possible after completion of the project.
- Equipment shall not be stored, maintained or repaired in waters of the U.S.
- Excess dredged or excavated material that is either unsuitable or not used as backfill shall be disposed at an upland disposal site.
- Spoil, debris, piling, cofferdams, construction materials, and any other obstructions resulting from or used during construction shall be removed upon project completion.
- Remove the dewatering structures as soon as possible after the completion of dewatering activities.
- When possible, work should be conducted during periods of no-flow or low-flow.
- To limit the time required for construction at a stream crossing, work areas on both sides of the stream will be prepared prior to construction of the actual crossing.
- Move stranded fish found in the dewatered channel downstream.
- For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the water body channel.
- Design to adequately transfer streamflow volumes around the work area when there are no concerns about sensitive species passage.

- Construct dams with materials that prevent sediment and other pollutants from entering the water body (e.g., sandbags or clean gravel with plastic liner).
- The stream bed and banks will be backfilled and restored to the pre-existing course, condition, capacity and location.
- To the maximum extent practicable backfill material shall consist of the excavated material and shall be returned to the hole in the same place on the vertical stratum from which it was excavated. As a contingency, use clean gravel or native cobbles for the upper 1-foot of trench backfill in all water bodies that contain fisheries.
- When velocity allows and prior to starting work, a silt fence or floating silt curtain shall be erected downstream or around the crossing. Where required, a fish barrier of netting may be erected, both upstream and downstream of the crossing, to prevent fish from entering the work area.
- Any stream bank, lake shore, or coastline affected by the work shall be restored and stabilized.
- Directional boring vaults/junction boxes or pads will not be constructed within 100 feet (measured from OHW) of anadromous fish streams.
- Horizontal directional drilling pilot, entrance, and exit holes must be the minimum necessary, and where a stream crossing is involved, must be set back from the stream bank by at least 100 feet. Excavated materials and drilling muds must be stockpiled on non-wetland, where available. Under non-frozen conditions fabric must be placed beneath all materials stockpiled in wetlands.
- Wooden structures in contact with water shall be treated with preservatives approved for use in aquatic and marine environments through the US EPA registration process.
- Wood preservative products shall be installed in accordance with the “Best Management Practices for the Use of Treated Wood in Aquatic and Other Sensitive Environments” August 2006, or the most current version including published amendments, published by the Western Wood Preservers Institute (WWPI) (www.wwpinstitute.org) including the standards set forth by the American Wood-Preservers Association (AWPA) (www.awpa.com), the Timber Piling Council (TPC) (www.timberpilingcouncil.org). and/or the American Lumber Standards Committee as appropriate.

Work in Wetlands

- Silt and sediment from excavation and fill activities may not enter wetlands outside the project footprint. Where practicable, fill material must be free from fine material that is subject to erosion and suspension. Site preparation, excavation, fill placement, and construction activities must be conducted to prevent, minimize, and contain the erosion and suspension of fine material that could be carried off-site by surface

runoff. If suspended material is evident in standing or flowing water outside the project footprint, appropriate control and containment measures must be applied. These measures may include slope stabilization, revegetation, filter fabric fences, straw bales, other effective filters or barriers, fiber matting, settling ponds, drainage control, trenches and water bars, waterproof covers over material piles and exposed soils, avoiding work during heavy precipitation, and other appropriate measures. Disturbed ground and exposed soil not covered with fill, structures, or appurtenances must be stabilized and revegetated in an appropriate and timely manner to minimize erosion and sedimentation, so that a durable vegetative cover is established and maintained.

- Project limits of authorized sites shall be clearly identified in the field (e.g., staking, flagging, silt fencing, use of buoys, existing footprint for maintenance activities, etc.) prior to clearing and construction to ensure avoidance of impacts to waters of the U.S. beyond project footprints.
- Silt fences, silt curtains, or other diversion or containment structures shall be installed to contain sediment and turbidity at the work site (a) parallel to and within 10 feet of the toe of any fill, or soil exposed within 25 feet of a standing or flowing waterbody, if the fill site has a downslope or surface connection to the waterbody; and (b) adjacent to any fill placed or soil exposed within a standing or flowing waterbody. All silt fences, curtains, and other structures must be installed properly and maintained in a functioning manner for the life of the construction period where fill material and exposed soils might cause transport of sediment or turbidity beyond the immediate construction site.
- Construction equipment, particularly the width of the excavating bucket head, should be limited to the minimum size necessary to complete the work.
- The load of heavy equipment shall be dispersed so that the bearing strength of the soil is not exceeded. Suitable methods to accomplish this include, but are not limited to, working in frozen or dry ground conditions, employing mats when working in wetlands or mudflats and using tracked rather than wheeled vehicles. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the work site.
- The work shall not adversely alter existing hydrology of waters of the U.S., including wetlands. The methods (e.g. use of impervious material, structures such as trench plugs, avoiding extensive gravel layering when backfilling, etc.) chosen to prevent the draining of wetlands shall be drawn onto the constructions plans and clearly labeled.
- Activities in breeding areas for migratory waterfowl, spawning areas, or areas of concentrated shellfish populations must be avoided to the maximum extent practicable.

- Locate all extra work areas at least 50 feet away from water's edge and wetlands. Utilize previously disturbed areas before open ground and open ground before forested areas.
- Remove the cut vegetation from the wetland for disposal.
- Equipment shall remain inside the identified project limits.
- Equipment shall not be stored, maintained or repaired in waters of the U.S.
- Excess dredged or excavated material that is either unsuitable or not used as backfill shall be disposed at an upland disposal site.
- Spoil, debris, piling, cofferdams, construction materials, and any other obstructions resulting from or used during construction shall be removed upon project completion.
- Remove the dewatering structures as soon as possible after the completion of dewatering activities.
- Temporary fill in wetlands shall be placed on geotextile fabric which is laid on the existing wetland grade.
- Topsoil and organic surface material such as root mats shall be stockpiled separately from overburden and returned to the surface of the restored site.
- Natural drainage patterns shall be maintained to the extent practicable by the installation of culverts in sufficient number and size to prevent ponding, diversion, or concentrated runoff that would result in adverse impacts to adjacent wetlands and other fish and wildlife habitats.
- Fill for the individual driveways, home pad, and septic systems shall not be placed in wetlands until the lot is sold or the applicant proposes to use a lot for a personal residence, a rental unit, or a model unit.

Restoring Disturbed Areas (Open Water and Wetlands)

- Areas disturbed during project construction must be revegetated as soon as possible, preferably in the same growing season as the disturbance. Erosion protection shall be provided and remain in place until the soil is permanently stabilized.
- In peat wetlands, systematically removing the natural vegetative mat (with root masses intact) prior to construction, storing it in a manner to retain viability (usually frozen or hydrated), then replacing it after re-contouring the ground following construction, with final contours within one foot of adjacent undisturbed soil surfaces after one growing season and one freeze/thaw cycle. For minor utility projects where

no imported bedding or backfill material is used (e.g., "plowed in" cables or small utility lines installed with ditch-witches), simple restoration to pre-work contours and appropriate revegetation shall suffice.

- Restoration and revegetation of streambank and shoreline habitat should utilize the most up-to-date bioengineering techniques and use of biodegradable materials when feasible and practicable (i.e. Streambank Revegetation and Protection: A Guide for Alaska (Muhlberg and Moore 1998)). Techniques may include, but are not limited to, brush layering, brush mattresses, live siltation, and use of jute matting and coir logs to stabilize soil and re-establish native vegetation.

***Grant Lake Hydroelectric Project
Jurisdictional Determination Report***

In Support of a Request for a Preliminary Jurisdictional Determination

DRAFT



**Submitted to
Department of the Army
United States Army Corps of Engineers
Alaska Region**

**Submitted by
Kenai Hydro, LLC**

May 2015

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Appendices

Appendix A: Jurisdictional Determination Map Set

- Figure 1. Wetland and waters jurisdictional types - global indicator map.
- Figure 2. Wetland and waters jurisdictional types - Grant Creek.
- Figure 3. Wetland and waters jurisdictional types - Grant Lake-intake.
- Figure 4. Wetland and waters jurisdictional types - Grant Lake-NW elbow.
- Figure 5. Wetland and waters jurisdictional types - Grant Lake-island east.
- Figure 6. Wetland and waters jurisdictional types - Grant Lake-east end.

Acronyms and Abbreviations

ADNR	Alaska Department of Natural Resources
CFR	Code of Federal Regulations
cfs	cubic feet per second
Corps Manual	1987 Corps of Engineers Wetland Delineation Manual
CWA	Clean Water Act
DP	Wetland determination point
FERC	Federal Energy Regulatory Commission
ft	feet
GIS	Geographic Information System
GPS	Global Positioning System
HEA	Homer Electric Association
HGM	hydrogeomorphic
JD	jurisdictional determination
KHL	Kenai Hydro, LLC
MW	megawatt
NWI	National Wetland Inventory (USFWS)
OP	Wetland observation point
Project	Grant Lake Hydroelectric Project (FERC No. 13212)
Regional Supplement	Alaska Regional Supplement to the Corps of Engineers Wetland Delineation Manual
RPW	relatively permanent waters
RPWWD	wetlands that directly abut relatively permanent waters
Section 404	Section 404 of the Clean Water Act
TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers

1 INTRODUCTION

Kenai Hydroelectric (KHL), a subsidiary of Homer Electric Association (HEA), is proposing the Grant Lake Hydroelectric Project (Project), a new 5-megawatt (MW) hydroelectric facility on Grant Lake and Grant Creek near Moose Pass, Alaska (Figure 1)¹. The purpose of this jurisdictional determination (JD) report is to identify wetlands and waters within the proposed Project area that are within the jurisdiction of Section 404 of the Clean Water Act (CWA) as interpreted by the United States Army Corps of Engineers (USACE), Alaska District. These jurisdictional wetlands and waters require authorizations from USACE prior to development activities in the form of a CWA Section 404 permit for the discharge of dredged or fill material into waters of the U.S. (including wetlands). Section 404 jurisdiction includes all “waters of the U.S.” as defined in 33 CFR Part 328.3(a)(1 – 8).

Wetlands are defined for regulatory purposes under the CWA as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Waters are defined as any non-vegetated area with a bed and bank, including intermittent, ephemeral, or perennial streams, rivers, or standing water (lakes and ponds).

This jurisdictional determination report presents an overview of the 2013 wetlands and waters delineation and the proposed jurisdictional determination based on the wetland and waters delineation. A map set of jurisdictional determination figures is presented in Appendix A.

The 2013 wetland and waters delineation is presented in more detail in a separate report, *Grant Lake Project Terrestrial Resources Final Report (Botanical Resources Section, Section 4)* (KHL 2014a), referred to as the “Terrestrial Resources Report”. The Terrestrial Resources Report includes the following material for the wetlands and waters within the Project area: 1) inventory and mapping of wetland and waters (delineation), 2) functional assessment and categorization, and 3) a qualitative assessment of potential Project impacts to wetlands and waters.

1.1 Project Description

The proposed Project would divert water from Grant Lake and deliver the flow to a powerhouse located near the outlet of the existing Grant Creek natural, incised rock canyon. A detailed Project description, including the dimensions and location of Project components is presented in Exhibit A of the Draft License Application (KHL 2015a), and the Section 404 Application (KHL2015b).

The Project would include the following major components:

- A 110-foot clear span bridge across the Trail Lake Narrows;

¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015a). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

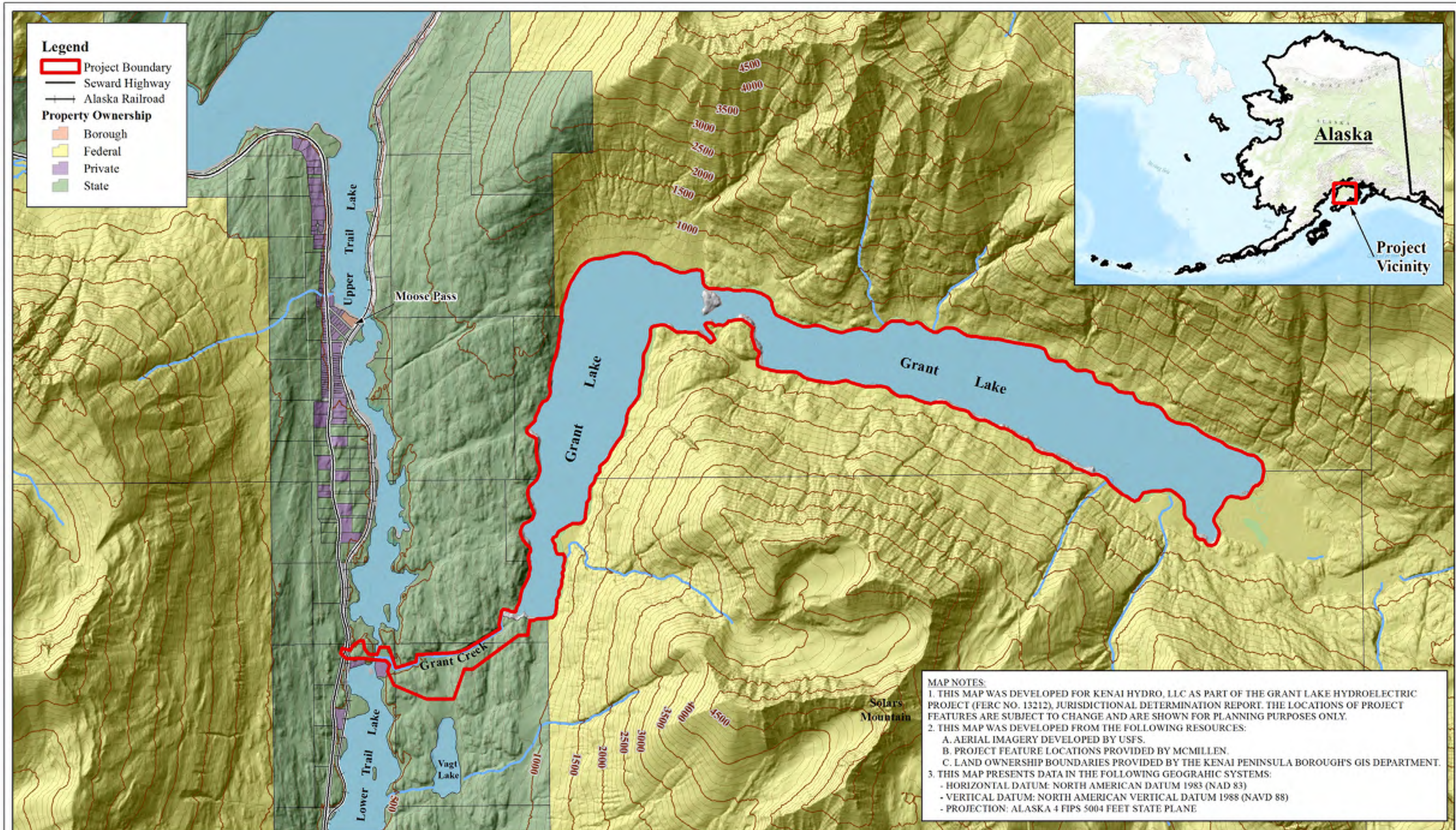
- Access roads:
 - Powerhouse access road extending from the Seward Highway, approximately 1 mile to the powerhouse located on the south side of Grant Creek; and
 - Intake access road, extending from the powerhouse road for approximately 0.9 mile to the outlet of Grant Lake; and
 - Spur road from intake access road to surge chamber.
- An intake structure in Grant Lake.
- A tunnel extending from the lake intake to just east of the powerhouse.
- A powerhouse with two turbines providing an anticipated combined 5-MW output.
- Maximum design flow of approximately 385 cubic feet per second (cfs).
- A detention pond and tailrace.
- An overhead transmission line.

1.2 Study Area

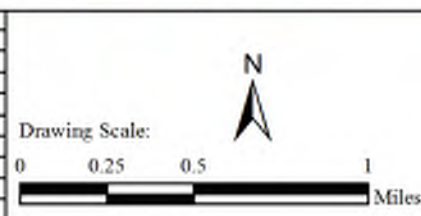
The study area used for the jurisdictional assessment is the “revised wetland assessment area,” which is nearly identical to the 2013 wetland and waters assessment area detailed in the Terrestrial Resources Report (KHL 2014a) and summarized below. The only difference is that the assessment area was revised based on changes in the Project design to include 1) the realigned intake access road to include new switchbacks, and 2) the surge chamber and access road. Appendix A, Figure 1 provides an illustration of the wetland assessment area as part of the jurisdictional determination map set.

The wetland assessment area focused on those areas where the Project has potential to have direct or indirect primary and/or secondary impacts on wetlands or waters, including surface water features such as lakes, ponds, creeks, and drainages. The wetland assessment area includes the following areas:

- A 100-foot buffer around all proposed Project features;
- A 100-foot buffer to the north and south side of Grant Creek to capture any wetlands or waters that may be affected by a future operational flow regime in Grant Creek; and
- The area within the estimated operational minimum and maximum lake level fluctuations around Grant Lake to capture possible hydrological influences due to changes in lake level fluctuations.



REV	DATE	BY	DESCRIPTION



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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 5/4/2015

DRAWING

SCALE: 1:35,000

2 METHODS

2.1 Wetland and Waters Delineation

A detailed description of the wetland delineation methods, as well as wetland delineation forms and field notes, are presented in the Terrestrial Resources Report (KHL 2014a). A summary is provided here.

The wetlands and waters delineation was completed in three steps: 1) review of existing data and GIS-based pre-field desktop mapping; 2) field-based groundtruthing and delineation of wetlands and waters; and 3) post-field GIS-based editing of the pre-field mapping using field data.

Pre-field mapping consisted of GIS-based mapping of wetlands and waters (as polygons) throughout the wetland assessment area (Appendix A, Figure 1), and assigning National Wetlands Inventory (NWI) (Cowardin et al. 1979) and Brinson (1993) hydrogeomorphic (HGM) position classification codes. The preliminary wetland map was developed in ArcGIS using the following data sources:

- 2010 wetland and waters determinations (KHL 2011);
- 2013 wetland and waters mapping (KHL 2014a);
- Aerial photography;
- Elevation contours (4-foot vertical resolution); and
- USFWS NWI mapping (NWI 2013).

In the field, wetland determinations were performed according to the 1987 Corps of Engineers Wetland Delineation Manual (Corps Manual) (USACE 1987) and the Alaska Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region (Regional Supplement; USACE 2007a). Waters were mapped using GPS points in the field, with subsequent editing in GIS using aerial photography and data collected by the Project aquatic habitat mapping study team (KHL 2014b) for Grant Creek side channel areas. A total of 41 field determination points (DP) (24 wetland DPs and 17 upland DPs) and 82 observation points (OP) were collected within the wetland assessment area in 2013. At each field DP, wetland scientists completed a USACE wetland determination form, took representative site photographs, documented the hydrogeomorphic position of the wetland location, and documented general field observations. In addition, the location of wetland DPs representative wetland/upland boundary points and other notable features were recorded with a Trimble GeoXH 6000 series GPS unit. Similar information was collected at OPs; however, formal delineation datasheets were not filled out for these locations.

Following the field-based wetland delineation, a GIS-based desktop analysis was then used to refine and complete the wetland and waters mapping effort. This evaluation included an analysis of DP data, OPs, existing vegetation mapping, NWI mapping, aerial photographs, and surface hydrology data. Wetland boundaries were refined using GPS boundary points and corresponding vegetation cover signatures in aerial photographs. NWI class codes (Cowardin et al. 1979), hydrologic modifiers, and HGM classes were also edited through this process.

2.2 Jurisdictional Determination Methods

The review of jurisdictional status was performed in consultation with federal guidance, including *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States (June 5, 2007)*; *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook and Approved Jurisdictional Determination Form, May 30, 2007 (USACE 2007b)*; and *SPN 2010-45 (January 29, 2010) (USACE 2010)*.

Per these guidance documents, USACE will assert jurisdiction over the following categories of water bodies:

- Traditional Navigable Waters (TNWs);
- All wetlands adjacent to TNWs;
- Non-navigable tributaries to TNWs that are relatively permanent waters (RPW)²; and
- Wetlands that directly abut RPWs³ (RPWWD).

Agencies will also assert jurisdiction over every water body that is not an RPW if that water body is determined to have a significant nexus with a TNW. These include the following water bodies:

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally;
- Wetlands adjacent to such tributaries; and
- Wetlands adjacent to but that do not directly abut an RPW (RPWWN).

To determine the potential JD categories for wetlands and waters within the assessment area, all relevant data were reviewed to determine connections between assessment area wetlands, Project area RPW's, and TNW's. TNWs were determined through review of the Alaska Department of Natural Resources (ADNR) Navigable Waters website mapping tool (ADNR 2014). Data sets reviewed included: all of the data layers used as part of the wetland and waters delineation (presented above) and the ADNR Navigable Waters website mapping tool (ADNR 2014). Data were evaluated beyond the assessment area to determine connections to TNWs.

² RPWs are tributaries that typically flow year-round or have continuous flow at least seasonally (USACE 2007a).

³ A wetland abuts a tributary if it is not separated from the tributary by uplands, a berm, dike or similar feature (USACE 2007a).

3 RESULTS

Results of the wetland and waters delineation (summarized) and the JD are presented below. In addition, an electronic version of the final wetland and waters mapping, and the preliminary jurisdictional status will be provided to the USACE as part of this report as a shapefile for use in ArcGIS, to assist with the jurisdictional determination as suggested in *SPN 2010-45* (USACE 2010).

3.1 Wetlands and Waters Delineation

A detailed description of the wetland and waters delineation results, as well as delineation forms, field notes, and detailed figures of the final wetland and waters mapping are presented in the Terrestrial Resources Report (KHL 2014a). A summary is provided here.

The field-based wetland delineation and waters mapping was conducted from July 16 through July 26, 2013, within the wetland assessment area defined in Appendix A, Figure 1. Weather conditions during the delineation were warm and dry; therefore, when appropriate, the delineators erred on the conservative side and assumed wetland hydrology could be present during cooler/wetter conditions.

Table 1 provides a summary of acreage and percent cover for each primary vegetation and surface water community. Tributary streams that were too narrow (i.e., <15 feet wide) to map as polygons are reported in linear feet. Table 2 provides a description of, and details acreages and linear feet by NWI and HGM type, of all mapped wetlands and waters. Note that as described in the Study Area, Section 1.2 of this JD report, the wetland assessment area has been revised since the publication of the Terrestrial Resources Report to reflect Project changes. The revised wetland assessment area is presented in Appendix A, Figure 1. This change resulted in very slight increases in the acreage of three wetland types, specifically around the surge chamber access road; for reference these acreages are presented in italics in Table 2. All other mapped areas and lines are the same as were presented in Table 4-3.1 of the Terrestrial Resources Report (KHL 2014a).

Vegetated wetland communities mapped within the Grant Lake wetland assessment area include herbaceous dominated, scrub-shrub dominated, and forested dominated wetlands associated with lacustrine, slope, and riparian areas. Waters mapped within the wetland assessment area include intermittent and perennial small tributary streams, Grant Creek, Inlet Creek, Grant Lake, the Trail Lake Narrows, and ponds. Additional details of the wetland and waters delineation are presented in the Terrestrial Resources Report (KHL 2014a), including a description of the wetland and waters types delineated within the wetland assessment area. Figures E.4-69 through E.4-74 of the Draft License Application (DLA) present the most up to date illustrative map set of the delineated wetlands and waters (KHL 2015a).

Table 1. Wetlands and waters acreages in revised 2014 wetland assessment area – summary.

	Revised 2014 Wetland Assessment Area	
Wetland Communities	Acres	% Coverage
Herbaceous Wetlands	5.68	15%
Herbaceous Wetland / Floodplain Forest & Scrub	3.11	8%
Scrub-Shrub Wetlands	20.92	54%
Scrub-Shrub Wetland / Floodplain Forest & Scrub	7.94	21%
Forested Wetlands	0.89	2%
Vegetated Wetland Subtotals	38.5	
Waters	Acres	% Coverage
Open Water - Grant Lake	1649.10	99%
Open Water - Trail Lake Narrows	1.02	0%
Open Water - Ponds	0.02	0%
Riverine- Grant Creek main and side channels	6.74	0%
Riverine- Outwash fans and areas of Inlet Creek channel	3.07	0%
Unvegetated Water Subtotals	1660.0	
WETLAND & WATER TOTALS	1698.5	
Non-Vegetated Waters¹	Feet	
Small Streams (perennial)	8,303	61%
Small Streams (intermittent)	5,279	39%
FEET TOTAL	13,583	
1: Streams that were mapped as lines rather than polygons due to width		

Table 2. Wetlands and waters within the 2014 wetland assessment area - detailed.

Wetland Cover Type	Hydrogeomorphic Position	NWI Class/ Subclass ^a	NWI Hydro Modifier ^b	Revised 2014 Wetland Assessment Area (Acres)	Vegetation Description ^c
Herbaceous Wetland	Depressional	PEM1	B, E, F, H	0.13	Palustrine emergent wetlands with saturated hydrologic conditions occurring throughout or within portions of Project area depressional features. Dominated by Drosera rotundifolia, Carex pauciflora, Rubus chamaemorus, Calamagrostis canadensis, Equisetum arvense. Wetland Points: OP55, (HDR 113, 116, 118,123); similar to DP14 but fewer scrub shrub.
		PEM1/SS1	E	0.08	Palustrine emergent and deciduous scrub-shrub mixed wetlands with saturated and seasonally flooded conditions occurring in a single depressional area within the transmission corridor west of Trail Lk. Dominated by Equisetum fluviatile, Comarum palustre, Sanguisorba canadensis, Calamagrostis canadensis, Salix barclayi, Betula glandulosa, Picea glauca. Wetland Points: DP14
	Lacustrine	PEM1	B, E, F, H	4.26	Palustrine emergent wetlands with hydrologic conditions ranging from saturated, seasonally flooded, semipermanently flooded, to permanently flooded typically occurring as a narrow fringe along portions of the Grant Lake shoreline. Dominated by Podagrostis aequivallis, Poa palustris, Carex lenticularis, Carex utriculata, Calamagrostis canadensis, Equisetum arvense, Equisetum fluviatile, Carex aquatilis, Deschampsia caespitosa, Sanguisorba canadensis. Wetland Points: DP10, DP27, DP33, OP59, OP61, OP62, OP65, OP67, OP82
		PEM1/SS1	B, C, E	1.20	Palustrine emergent and deciduous scrub-shrub mixed wetlands with hydrologic conditions ranging from saturated to seasonally flooded occurring typically as a narrow fringe along portions of the Grant Lake and Trail Lake shoreline. Dominated by Chamerion latifolium, Calamagrostis canadensis, Comarum palustre, Equisetum arvense, Sanguisorba canadensis, Alnus viridis, Betula glandulosa, Populus balsamifera, Salix alaxensis, Salix barclayi, Salix sitchensis. Wetland Points: DP01, DP35 (HDR107), OP60, OP68, OP69
Herbaceous Wetland Subtotal:				5.68	
Herbaceous Wetland / Floodplain Forest & Scrub	Riverine	PEM1	B, C, E	0.61	Palustrine emergent wetlands with hydrologic conditions ranging from saturated to seasonally flooded occurring as narrow fringe along stream channels or as part of a complex wetland-upland mosaic complex associated with Grant Creek side channels. Dominated by Calamagrostis canadensis, Carex sitchensis, Equisetum arvense, Sanguisorba canadensis. Wetland Points: DP25, OP43, OP51, OP74
		PEM1/SS1	C	2.50	Palustrine emergent and deciduous scrub-shrub mixed wetlands with seasonally flooded hydrologic conditions occurring in micro-topo lows within the complex riparian wetland-upland mosaic associated with the Grant Creek side channels. Dominated by Calamagrostis canadensis, Equisetum arvense, Athyrium felix-femina, Alnus viridis, Salix commutata. NOTE: Wetlands account for only 20% of the acreage associated with this mosaic community, the remaining 80% is upland. Wetland Points: DP23.
Herbaceous Wetland / Floodplain Forest & Scrub Subtotal:				3.11	

Table 2. Continued....

Wetland Cover Type	Hydrogeomorphic Position	NWI Class/ Subclass ^a	NWI Hydro Modifier ^b	Revised 2014 Wetland Assessment Area (Acres)	Vegetation Description ^c
Scrub-Shrub Wetland	Depressional	PSS1	B, E	0.21	Palustrine deciduous scrub-shrub wetlands with saturated to seasonally flooded hydrologic conditions occurring throughout or within portions of Project area depressional features Dominated by Ledum decumbens, Betula glandulosa, Vaccinium uliginosum. Wetland Points: (HDR129); similar to DP22
		PSS1/3	B, E	0.31	Palustrine deciduous and broadleaved evergreen scrub-shrub wetlands with saturated conditions occurring throughout or within portions of Project area depressional features. Typically dominated by Rubus chamaemorus, Cornus canadensis, Empetrum nigrum, Betula glandulosa, Andromeda polifolia, Ledum decumbens. Wetland Points: None, similar vegetation to DP17
		PSS1/EM1	B, E	2.95	Palustrine deciduous scrub-shrub and emergent mixed wetlands with saturated to seasonally flooded hydrologic conditions occurring throughout or within portions of Project area depressional features, including the proposed detention pond area south of Grant Creek. Dominated by Picea glauca, Salix barclayi, Equisetum fluviatile, and Calamagrostis canadensis. Wetland Points: DP22
		PSS3/EM1	B	0.60	Palustrine broadleaved evergreen scrub-shrub and emergent mixed wetlands with saturated hydrologic conditions typically occurring within portions of Project area depressional features. Dominated by Andromeda polifolia, Betula glandulosa, Empetrum nigrum, Carex pauciflora, Rubus chamaemorus, Equisetum arvense. Wetland Points: DP17, DP20; (HDR127)
		PSS4	B	0.00	Palustrine needle leaved evergreen scrub-shrub wetland with saturated hydrologic conditions occurring in a single depressional feature south of the transmission corridor on the west side of Trail Lake. Outside of 2013 wetland assessment area, plant species not documented. Wetland Points: None, located outside of 2013 wetland assessment area
		PSS4/3/EM1	B	0.40	Palustrine needle leaved and broadleaved evergreen scrub-shrub and emergent mixed wetland with saturated hydrologic conditions occurring in a depressional feature within the transmission corridor. Dominated by Picea glauca, Rubus chamaemorus, Andromeda polifolia, Betula glandulosa, and Ledum decumbens. Wetland Points: DP19 (HDR125)
	Lacustrine	PSS1	C, E	8.21	Palustrine deciduous scrub-shrub wetlands with saturated or seasonally flooded hydrologic conditions occurring as a narrow fringe along portions of the Grant Lake shoreline. Dominated by Salix alaxensis, Salix pulchra, Salix barclayi, Alnus viridis. Wetland Points: OP12, OP15, OP80; (HDR106)
		PSS1/EM1	B, C, E	7.24	Palustrine deciduous scrub-shrub and emergent mixed wetlands with saturated and seasonally flooded hydrologic conditions occurring typically as a narrow fringe along portions of the Grant Lake shoreline, or as larger wetlands at the Grant Lake inlet or outlet. Dominant plant species include Salix sitchensis, Salix alaxensis, Salix barclayi, Alnus viridis, Betula glandulosa, Carex hyemale, Carex canescens, Carex lenticularis, Equisetum arvense, Equisetum fluviatile, Calamagrostis canadensis, Chamerion latifolium, Sanguisorba canadensis. Wetland Points: DP03, DP04, DP06, DP08, DP29, DP31, OP81
	Riverine	PSS1	C	0.03	Palustrine deciduous scrub-shrub wetlands with seasonally flooded hydrologic conditions associated with small drainages within the Project area. Dominated by Salix sitchensis, Salix alaxensis, Alnus viridis, Sanguisorba canadensis, Rubus chamaemorus, Calamagrostis canadensis, Cornus canadensis. <i>Wetland Points: OP58</i>
		PSS1/EM1	C, E	0.97	Palustrine deciduous scrub-shrub and emergent mixed wetlands with saturated to seasonally flooded hydrologic conditions associated with small drainages within the Project area. Dominated by Salix pulchra, Salix barclayi, Alnus viridis, Tsuga mertensiana, Equisetum arvense, Equisetum fluviatile, Calamagrostis canadensis, Agrostis mertensii. <i>Wetland Points: DP12, DP39</i>
Scrub-Shrub Wetland Subtotal:				20.92	

Table 2. Continued....

Wetland Cover Type	Hydrogeomorphic Position	NWI Class/ Subclass ^a	NWI Hydro Modifier ^b	Revised 2014 Wetland Assessment Area (Acres)	Vegetation Description ^c
Scrub-Shrub Wetland / Floodplain Forest and Scrub	Riverine	PSS1	A, B, C, E	5.67	Palustrine deciduous scrub-shrub wetlands with hydrologic conditions ranging from temporarily flooded, saturated, to seasonally flooded associated with Project area active floodplain and outwash fan features. Dominated by Salix sitchensis, Salix alaxensis, Alnus viridis, Populus balsamifera, Calamagrostis canadensis, Equisetum hyemale. <i>Wetland Points: DP02, DP09</i>
		PSS1/EM1	C, E	2.22	Palustrine deciduous scrub-shrub and emergent mixed wetlands with saturated to seasonally flooded hydrologic conditions occurring in micro-topo lows within the complex riparian wetland-upland mosaic associated with the Grant Creek side channels. Dominated by Alnus viridis, Salix commutata, Calamagrostis canadensis. NOTE: Wetlands account for only 10% of the acreage associated with this mosaic community, the remaining 90% is upland. <i>Wetland Points: DP24, OP73, OP74</i>
		PSS1/FO1	C	0.04	Palustrine deciduous scrub-shrub and deciduous forested mixed wetlands with seasonally flooded hydrologic conditions associated riparian fringe along Grant Creek. Dominated by Salix sitchensis, Salix alaxensis, Alnus viridis, Betula papyrifera. <i>Wetland Points: Documented on field map only; similar to DP24 but with more mature deciduous trees</i>
Scrub-Shrub / Floodplain Forest & Scrub Wetland Subtotal:				7.94	
Forested Wetland	Slope	PFO4	B	0.81	Palustrine needle leaved evergreen forested wetland with saturated hydrologic conditions; within the Project area this includes one wetland which is associated with the west-facing slope adjacent to the detention pond. Dominated by Picea glauca, Salix barclayi, Betula papyrifera, and Agrostis stolonifera. <i>Wetland Points: OP40 (HDR121)</i>
		PFO4/EM1	B	0.08	Palustrine needle leaved evergreen forested and emergent mixed wetland with saturated hydrologic conditions associated with a seasonal drainage on a north-facing slope. Dominated by Salix sitchensis, Salix alaxensis, Alnus viridis, Tsuga mertensiana, Rubus chamaemorus, Cornus canadensis. <i>Wetland Points: DP37, (HDR 110)</i>
Forested Wetland Subtotal:				0.89	
Open Water	Lacustrine	L1UB (Grant Lk.)	H	1648.20	Unvegetated deep water (greater than 6.6 ft deep) of Trail Lake and Grant Lake. <i>Wetland Points: None</i>
		L2UB (Grant Lk.)	H	0.82	Unvegetated shallow water (less than 6.6 ft deep) associated with the outlet of Grant Lake. <i>Wetland Points: None</i>
		L2US (Grant Lk.)	C	0.09	Unvegetated shallow water (less than 6.6 ft deep) associated with the outlet of Grant Lake. <i>Wetland Points: None</i>
		Total Grant Lk.		1649.10	
		L1UB (Trail Lk. Narrows)	H	1.02	Unvegetated deep water (greater than 6.6 ft deep) of Trail Lake Narrows. <i>Wetland Points: None</i>
Open Water Subtotal:				1650.12	
Pond	Depressional	PUB	H	0.02	Shallow ponds (less than 20 acres in size) associated with depressional features within the Project area. All were outside the original 2013 wetland assessment area. <i>Wetland Points: None, located outside original 2013 wetland assessment area</i>
Pond Subtotal:				0.02	
Non-Vegetated	Riverine	R2UB (Grant Cr.)	H	6.74	Active channel and unvegetated portion of the Grant Creek main channel and side channels. <i>Wetland Points: OP28, OP45, OP48, OP51</i>
		R3UB (Outwash fans and Inlet Cr.)	C	3.07	Unvegetated channel beds and outwash fan located at the inlet of Grant Lake that are flooded during high flow and likely during high precipitation events, but dry during low flows. <i>Wetland Points: OP14, OP56, OP79</i>
		R3UB (Small streams, perennial)	H	8,303 ft	Unvegetated permanently flooded (flowing) active stream channels mapped as stream lines throughout Project area. No acreages associated with these stream lines. <i>Wetland Points: DP12,(HDR112), DP14, DP31, DP39, OP01, OP02, OP03, OP07, OP08, OP09, OP16, OP18, OP56, OP58, OP59, OP68, OP76 (HDR109), OP79; (HDR126)</i>
		R4SB (Small streams, intermittent)	C	5,279 ft	Unvegetated seasonally flooded (not flowing during survey) stream channels mapped as stream lines throughout Project area. No acreages associated with these stream lines. <i>Wetland Points: DP17, OP11, OP25, (HDR117) OP32, OP33, OP43, OP64, OP80; (HDR111)</i>
Non-Vegetated Riverine Subtotal:				9.82	
TOTALS				1698.51	
a,b NWI and hydro modifier codes are the Wetlands and Deepwater Habitats Classification table (Cowardin et al 1979).					
cDP =wetland delineation point, ERM 2013 field; OP = observation point, ERM 2013 field; (HDR ##) = HDR data point, HDR 2010 field; Wetland types w/o specific data points were assessed as part of the ERM 2013 field study, the KHL 2010 field study conducted by HDR, or through a desktop analysis. Community associations were determined based on field knowledge of the wetland communities.					

Table 2. Continued....

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3.2 Jurisdictional Determination

Appendix A, Figures 1 through 6 present the map set of jurisdictional status, labeled by wetland or waters type (RPW, RPWWD, or RPWWN). All wetlands within the assessment area are believed to fall under potential CWA jurisdiction based on either observation or inference of surface or subsurface hydrologic connections linking these wetlands with a TNW via an RPW. The TNW associated with project area wetlands is Kenai Lake, which flows into the Kenai River and eventually into Cook Inlet to the west. The navigability status of the Grant Lake and the Trail Lakes is ‘unknown’ according to the ADNR Navigable Waters website mapping tool (ADNR 2014).

Table 3 presents the RPWs identified within the Project area, and a summary of acreages of wetlands and waters associated with each RPW, per the USACE JD Instructional Guidebook (USACE 2007b). Table 4 details the jurisdictional status of all wetlands and waters within the assessment area that were mapped as area (acres), presented by the RPW with which they are associated; Table 5 details the jurisdictional status of all waters within the assessment area that were mapped as linear feet. All wetlands or waters features are mapped as either an area feature or a linear feature, with the exception of the Grant Creek main channel, which was mapped as both area and linear feet. Given its width (>15 feet), Grant Creek is presented as a polygon to illustrate area, but also as a linear feature to present length.

All wetlands within the Project area were determined to fall into one of the following JD categories, as presented in Tables 3 and 4:

- **RPW:** The following waters with continuous or seasonal flow were identified: Detention pond wetland unnamed tributaries, Grant Creek, Grant Creek unnamed tributaries, Grant Lake, Grant Lake unnamed tributaries, Inlet Creek, Inlet Creek unnamed tributaries; an Upper Trail Lake unnamed tributary, Trail Lake Narrows, and a Lower Trail Lake unnamed tributary. All RPW’s, with the exception of the detention pond wetland tributaries and Inlet Creek tributaries, had wetlands associated with them, as summarized in Table 3.
- **RPWWD:** Several wetlands within the Project area were identified as directly abutting the above RPWs that flow directly or indirectly into a TNW (Kenai Lake).
- **RPWWN:** Four wetland areas were considered adjacent to, but not directly abutting an RPW: 1) a small depressional wetland located north of Grant Creek near the confluence with the Trail Lake Narrows, 2) a depressional wetland located just south of the surge chamber, 3) a slope wetland located south of the intake access road, and 4) a wetland complex consisting of three wetland vegetation types located south of the powerhouse access road. All of these RPWWN wetlands likely have a shallow subsurface groundwater connection either directly with an RPW, or indirectly through their connection with adjacent wetland areas that have a direct connection with an RPW.

The RPWWN designation requires a significant nexus determination; however, because we are requesting a Preliminary JD, which assumes that all wetlands within the Project area are

jurisdictional, no additional significant nexus information is provided here. If an Approved JD is requested at a later date, a significant nexus determination will be provided at that time.

Table 3. Summary of area of wetland or waters associated with each RPW

Relatively Permanent Water ¹	Associated Wetland or Waters Type	Wetlands Summary (Acres)	Waters Summary (Acres)	NWI Types	Description
Detention Pond Wetland- unnamed tributaries	None	Amount	0.00	NA	NA
Grant Creek	RPWWN	0.01	/	PEM1	Herbaceous wetland
Grant Creek	RPW	/	6.74	R2UB	Non-vegetated riverine (Grant Cr main and side channels)
Grant Creek	RPWWD	4.17	/	PEM1, PEM1/SS1, PSS1/EM1, PSS1/FO1	Herbaceous, scrub/shrub, and forested wetland
Grant Creek- unnamed tributaries	RPWWD	5.02	/	PEM1, PFO4, PSS1/3, PSS1/EM1	Herbaceous, scrub/shrub, and forested wetland
Grant Creek- unnamed tributaries	RPWWN	0.06	/	PEM1	Herbaceous wetland
Grant Creek- unnamed tributaries	RPWWD	/	0.02	PUB	Pond
Grant Lake	RPW	/	1649.11	L1UB, L2UB, L2US	Non-vegetated lacustrine deep and shallow water (Grant Lake)
Grant Lake	RPWWD	28.16	/	PEM1, PEM1/SS1, PSS1, PSS1/EM1	Herbaceous and scrub/shrub wetland
Grant Lake- unnamed tributaries	RPWWD	/	0.94	R3UB	Non-vegetated riverine channel beds and outwash fans
Grant Lake- unnamed tributaries	RPWWN	0.08	/	PFO4/EM1	Forested-herbaceous wetland
Inlet Creek	RPW	/	2.13	R3UB	Non-vegetated riverine channel beds and outwash fans (Inlet Creek)
Inlet Creek- unnamed tributaries	None	0.00	0.00	NA	NA
Upper Trail Lake- unnamed tributary	RPWWD	0.08	/	PEM1/SS1	Herbaceous-scrub/shrub wetland
Trail Lake Narrows	RPW	/	1.01	L1UB	Non-vegetated lacustrine deep water (Trail Lake Narrows)
Trail Lake Narrows	RPWWD	0.22	/	PEM1	Herbaceous wetland
Lower Trail Lake- unnamed tributary	RPWWN	0.34	/	PEM1, PSS1, PSS3/EM1	Herbaceous and scrub/shrub wetland
Lower Trail Lake- unnamed tributary	RPWWD	0.40	/	PSS4/3/EM1	Scrub/shrub-herbaceous wetland
Totals		38.54	1659.96		

1: RPW, synonymous with "Waters_Name" in the 2014 version of the "ORM_Upload_Sheet_Consolidated" Excel workbook provided by USACE

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Table 4. Detailed jurisdictional determination of wetlands and waters mapped as area (as opposed to linear feet)

Wetlands							
Waters Name (Associated RPW)	NWI	Hydro	HGM	Measurement Type	Amount	Unit	Waters Type
Grant Creek	PEM1	B	Depressional	Area	0.005	Acre	RPWWN
Grant Creek	PEM1	C	Riverine	Area	0.026	Acre	RPWWD
Grant Creek	PEM1	E	Riverine	Area	0.019	Acre	RPWWD
Grant Creek	PEM1	C	Riverine	Area	0.028	Acre	RPWWD
Grant Creek	PEM1	C	Riverine	Area	0.205	Acre	RPWWD
Grant Creek	PEM1	C	Riverine	Area	0.107	Acre	RPWWD
Grant Creek	PEM1/SS1	C	Riverine	Area	2.502	Acre	RPWWD
Grant Creek	PSS1/EM1	E	Riverine	Area	0.097	Acre	RPWWD
Grant Creek	PSS1/EM1	E	Riverine	Area	0.087	Acre	RPWWD
Grant Creek	PSS1/EM1	C	Riverine	Area	1.053	Acre	RPWWD
Grant Creek	PSS1/FO1	C	Riverine	Area	0.043	Acre	RPWWD
Grant Creek- unnamed tributary	PEM1	B	Depressional	Area	0.056	Acre	RPWWN
Grant Creek- unnamed tributary	PEM1	H	Depressional	Area	0.023	Acre	RPWWD
Grant Creek- unnamed tributary	PFO4	B	Slope	Area	0.808	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/3	B	Depressional	Area	0.139	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/3	B	Depressional	Area	0.167	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/EM1	E	Depressional	Area	2.947	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/EM1	E	Riverine	Area	0.080	Acre	RPWWD
Grant Creek- unnamed tributary	PSS1/EM1	B	Riverine	Area	0.332	Acre	RPWWD
Grant Creek- unnamed tributary	PSS3/EM1	B	Depressional	Area	0.168	Acre	RPWWD
Grant Creek- unnamed tributary	PSS3/EM1	B	Depressional	Area	0.353	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.691	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.094	Acre	RPWWD
Grant Lake	PEM1	H	Lacustrine	Area	0.138	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.084	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.314	Acre	RPWWD
Grant Lake	PEM1	B	Lacustrine	Area	0.071	Acre	RPWWD
Grant Lake	PEM1	B	Lacustrine	Area	0.382	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.089	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.063	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.074	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.097	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.090	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.115	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.117	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.128	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.075	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.036	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.049	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.079	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.076	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.064	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.040	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.019	Acre	RPWWD
Grant Lake	PEM1	E	Lacustrine	Area	0.044	Acre	RPWWD
Grant Lake	PEM1	F	Lacustrine	Area	1.234	Acre	RPWWD
Grant Lake	PEM1/SS1	E	Lacustrine	Area	0.114	Acre	RPWWD
Grant Lake	PEM1/SS1	B	Lacustrine	Area	0.070	Acre	RPWWD
Grant Lake	PEM1/SS1	E	Lacustrine	Area	0.287	Acre	RPWWD
Grant Lake	PEM1/SS1	C	Lacustrine	Area	0.704	Acre	RPWWD
Grant Lake	PEM1/SS1	E	Lacustrine	Area	0.025	Acre	RPWWD
Grant Lake	PSS1	E	Lacustrine	Area	7.172	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.113	Acre	RPWWD
Grant Lake	PSS1	E	Lacustrine	Area	0.194	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.238	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.196	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.184	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.035	Acre	RPWWD
Grant Lake	PSS1	C	Lacustrine	Area	0.078	Acre	RPWWD
Grant Lake	PSS1	C	Riverine	Area	0.008	Acre	RPWWD
Grant Lake	PSS1	B	Riverine	Area	3.936	Acre	RPWWD
Grant Lake	PSS1	C	Riverine	Area	0.023	Acre	RPWWD
Grant Lake	PSS1	B	Riverine	Area	0.187	Acre	RPWWD
Grant Lake	PSS1	E	Riverine	Area	1.550	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.026	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.049	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.538	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.027	Acre	RPWWD

Table 4. Continued....

Grant Lake	PSS1/EM1	B	Lacustrine	Area	0.724	Acre	RPWWD
Grant Lake	PSS1/EM1	B	Lacustrine	Area	4.404	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.473	Acre	RPWWD
Grant Lake	PSS1/EM1	C	Lacustrine	Area	0.349	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.234	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.075	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.053	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.094	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Lacustrine	Area	0.190	Acre	RPWWD
Grant Lake	PSS1/EM1	E	Riverine	Area	0.562	Acre	RPWWD
Grant Lake	PSS1/EM1	B	Riverine	Area	0.988	Acre	RPWWD
Grant Lake- unnamed tributary	PFO4/EM1	B	Slope	Area	0.082	Acre	RPWWN
Lower Trail Lake- unnamed tributary	PEM1	B	Depressional	Area	0.048	Acre	RPWWN
Lower Trail Lake- unnamed tributary	PSS1	B	Depressional	Area	0.214	Acre	RPWWN
Lower Trail Lake- unnamed tributary	PSS3/EM1	B	Depressional	Area	0.078	Acre	RPWWN
Lower Trail Lake- unnamed tributary	PSS4/3/EM1	B	Depressional	Area	0.404	Acre	RPWWD
Trail Lake Narrows	PEM1	C	Riverine	Area	0.224	Acre	RPWWD
Upper Trail Lake- unnamed tributary	PEM1/SS1	E	Depressional	Area	0.084	Acre	RPWWD
			Total Wetland Area		38.5		
Waters							
Waters Name (Associated RPW)	NWI	Hydro	HGM	Measurement Type	Amount	Unit	Waters Type
Grant Creek	R2UB	H	Riverine	Area	6.745	Acre	RPW
Grant Creek- unnamed tributary	PUB	H	Depressional	Area	0.024	Acre	RPWWD
Grant Lake	L1UB	H	Lacustrine	Area	1648.200	Acre	RPW
Grant Lake	L2UB	H	Lacustrine	Area	0.821	Acre	RPW
Grant Lake	L2US	C	Lacustrine	Area	0.086	Acre	RPW
Inlet Creek	R3UB	C	Riverine	Area	2.131	Acre	RPWWD
Grant Lake- unnamed tributary	R3UB	C	Riverine	Area	0.515	Acre	RPWWD
Grant Lake- unnamed tributary	R3UB	C	Riverine	Area	0.427	Acre	RPWWD
Trail Lake Narrows	L1UB	H	Lacustrine	Area	1.011	Acre	RPW
			Total Waters Area		1660.0		

Table 5. Detailed jurisdictional determination of waters mapped as linear feet

Waters Name	NWI Code	HGM	Measurement Type	Amount	Unit	Waters Type	Stream Type
Detention pond wetland- unnamed tributary	R4SB	Riverine	Linear	393.6	Feet	RPW	Intermittent
Detention pond wetland- unnamed tributary	R4SB	Riverine	Linear	688.4	Feet	RPW	Intermittent
Grant Creek	R3UB	Riverine	Linear	5,774.0	Feet	RPW	Perennial
Grant Creek- unnamed tributary	R3UB	Riverine	Linear	413.0	Feet	RPW	Perennial
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	251.8	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	593.8	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	103.0	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	182.8	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	109.7	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	109.4	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	323.8	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	444.3	Feet	RPW	Intermittent
Grant Creek- unnamed tributary	R4SB	Riverine	Linear	327.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	108.1	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	192.8	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	736.7	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	93.0	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	524.5	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	81.4	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	475.9	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	28.2	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	64.5	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	50.4	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	90.7	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	24.0	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	193.8	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R3UB	Riverine	Linear	210.3	Feet	RPW	Perennial
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	56.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	83.1	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	34.0	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	7.7	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	11.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	36.3	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	49.5	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	28.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	18.7	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	101.2	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	42.0	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	21.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	13.8	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	52.1	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	10.9	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	43.8	Feet	RPW	Intermittent
Grant Lake- unnamed tributary	R4SB	Riverine	Linear	46.4	Feet	RPW	Intermittent
Inlet Creek	R3UB	Riverine	Linear	113.3	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	120.8	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	129.2	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	189.0	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	2,390.8	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	1,558.0	Feet	RPW	Perennial
Inlet Creek	R3UB	Riverine	Linear	389.8	Feet	RPW	Perennial
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	43.2	Feet	RPW	Intermittent
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	99.6	Feet	RPW	Intermittent
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	66.9	Feet	RPW	Intermittent
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	346.5	Feet	RPW	Intermittent
Inlet Creek- unnamed tributary	R4SB	Riverine	Linear	197.1	Feet	RPW	Intermittent
Lower Trail Lake- unnamed tributary	R4SB	Riverine	Linear	393.5	Feet	RPW	Intermittent
Upper Trail Lake- unnamed tributary	R3UB	Riverine	Linear	125.4	Feet	RPW	Perennial
		Total Linear Feet		19,412.0			

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4 CONCLUSIONS

This report is in support of KHL's request for a Preliminary JD for permitting of the proposed Project. As part of a Preliminary JD, all of the wetlands and waters mapped within the Project's wetland assessment area are assumed to be within the jurisdiction of Section 404 of the CWA as interpreted by the USACE. The TNW associated with the Project area wetlands and waters is Kenai Lake. The Project area wetlands and waters are connected to Kenai Lake via Grant Creek which flows into the Trail Lake Narrows and Lower Trail Lake, which flows into Kenai Lake. Wetlands and waters were categorized as either a 1) RPW that flows directly or indirectly into a traditional navigable water, 2) a wetland directly abutting an RPW, that flows directly or indirectly into a traditional navigable water, or 3) a wetland adjacent to but not directly abutting an RPW that flows directly or indirectly into a traditional navigable water.

Given that this is a Preliminary JD request, a formal significant nexus determination was not completed as part of this report. If KHL requests an Approved JD in the future, a significant nexus determination will be completed at that time.

5 REFERENCES

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Appendix A: Wetlands and Waters Jurisdictional Determination Map Set

Figure 1. Wetland and waters jurisdictional types - global indicator map.

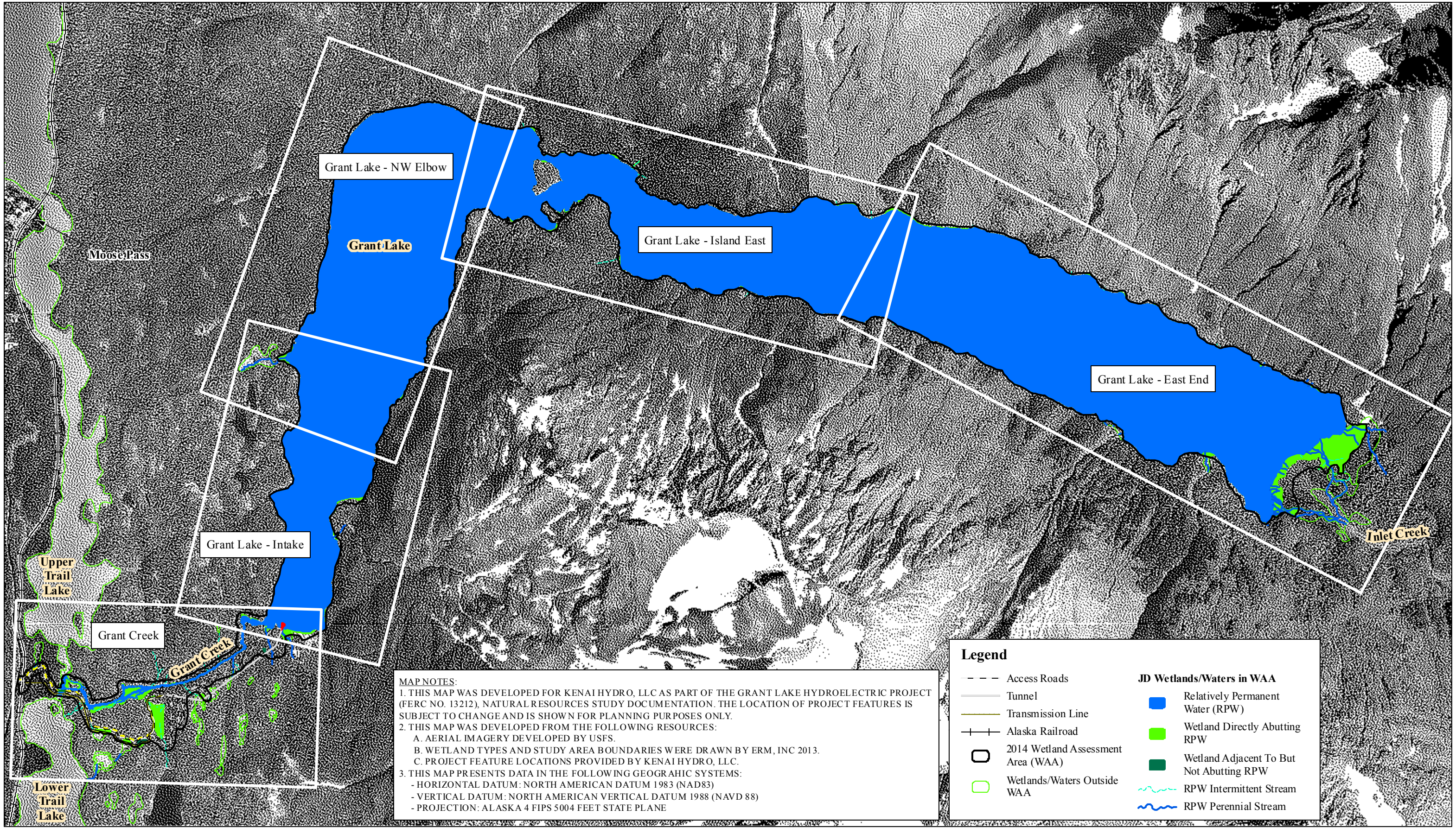
Figure 2. Wetland and waters jurisdictional types - Grant Creek.

Figure 3. Wetland and waters jurisdictional types - Grant Lake-intake.

Figure 4. Wetland and waters jurisdictional types - Grant Lake-NW elbow.

Figure 5. Wetland and waters jurisdictional types - Grant Lake-island east.

Figure 6. Wetland and waters jurisdictional types - Grant Lake-east end.



REV	DATE	BY	DESCRIPTION		

0100020004000

Feet

N

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Developed For:

HEA

Homer Electric Association, Inc.

A "Touchstone Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Appendix A - Figure 1
Wetland and Waters Jurisdictional Types
Global Indicator Map

DESIGNED M. Hjortsberg

DRAWN M. Hjortsberg

CHECKED L. Shoutis

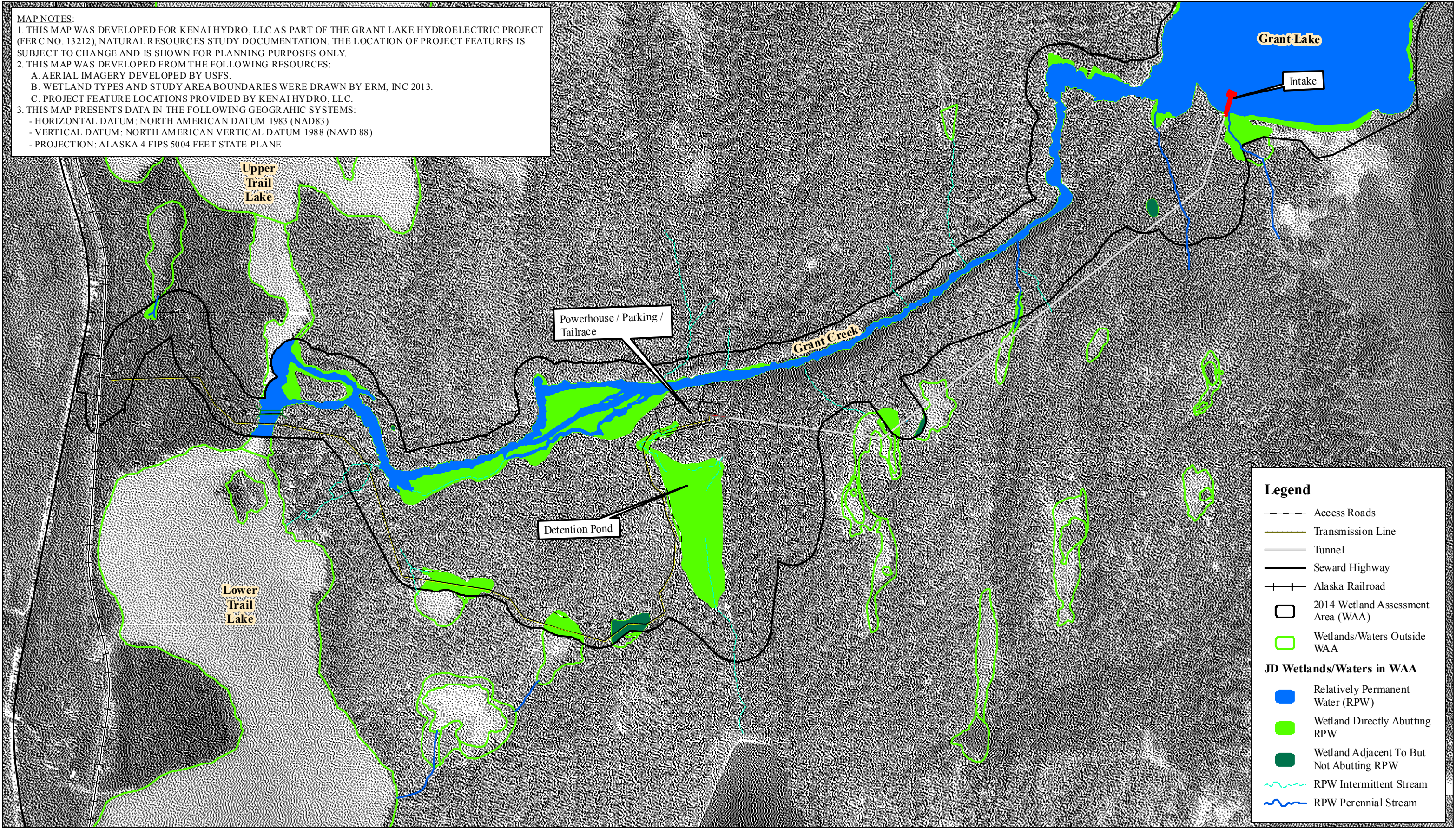
ISSUED DATE 2/20/2015

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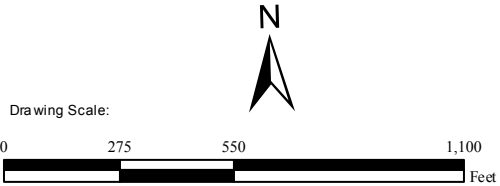
1 of 6

SCALE: 1:24,000

MAP NOTES:
1. THIS MAP WAS DEVELOPED FOR KENAI HYDRO, LLC AS PART OF THE GRANT LAKE HYDROELECTRIC PROJECT (FERC NO. 13212), NATURAL RESOURCES STUDY DOCUMENTATION. THE LOCATION OF PROJECT FEATURES IS SUBJECT TO CHANGE AND IS SHOWN FOR PLANNING PURPOSES ONLY.
2. THIS MAP WAS DEVELOPED FROM THE FOLLOWING RESOURCES:
A. AERIAL IMAGERY DEVELOPED BY USFS.
B. WETLAND TYPES AND STUDY AREA BOUNDARIES WERE DRAWN BY ERM, INC 2013.
C. PROJECT FEATURE LOCATIONS PROVIDED BY KENAI HYDRO, LLC.
3. THIS MAP PRESENTS DATA IN THE FOLLOWING GEOGRAPHIC SYSTEMS:
- HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83)
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)
- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE



REV	DATE	BY	DESCRIPTION	



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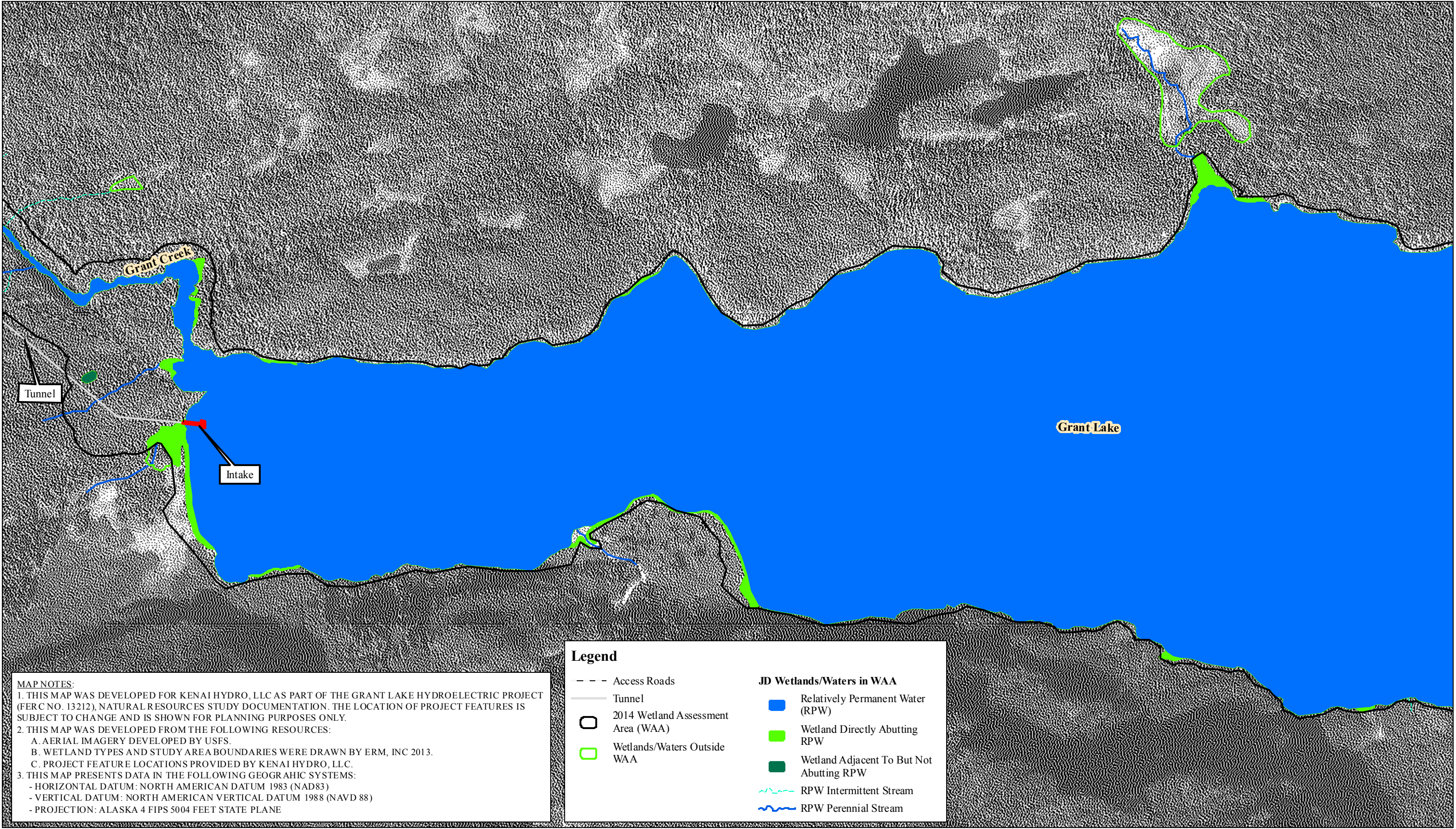
GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

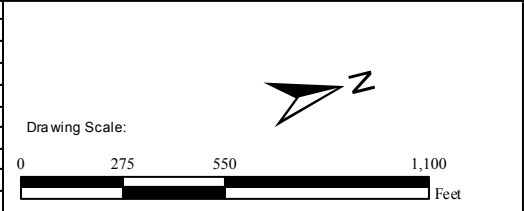
Appendix A - Figure 2
Wetland and Waters Jurisdictional Types
Grant Creek

DESIGNED J. Woodbury
DRAWN M. Hjortsberg
CHECKED L. Shoutis
ISSUED DATE 2/20/2015

DRAWING
2 of 6
SCALE: 1:5,500



REV	DATE	BY	DESCRIPTION



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A "Touchstone Energy" Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212		DESIGNED <u>J. Woodbury</u>	DRAWING 3 of 6
JURISDICTIONAL DETERMINATION REPORT		DRAWN <u>M. Hjortsberg</u>	
Appendix A - Figure 3 Wetlands and Waters Jurisdictional Types Grant Lake - Intake		CHECKED <u>L. Shoutis</u>	SCALE: 1:6,200
		ISSUED DATE <u>2/20/2015</u>	



MAP NOTES:

1. THIS MAP WAS DEVELOPED FOR KENAI HYDRO, LLC AS PART OF THE GRANT LAKE HYDROELECTRIC PROJECT (FERC NO. 13212), NATURAL RESOURCES STUDY DOCUMENTATION. THE LOCATION OF PROJECT FEATURES IS SUBJECT TO CHANGE AND IS SHOWN FOR PLANNING PURPOSES ONLY.

2. THIS MAP WAS DEVELOPED FROM THE FOLLOWING RESOURCES:

A. AERIAL IMAGERY DEVELOPED BY USFS.

B. WETLAND TYPES AND STUDY AREA BOUNDARIES WERE DRAWN BY ERM, INC 2013.

C. PROJECT FEATURE LOCATIONS PROVIDED BY KENAI HYDRO, LLC.

3. THIS MAP PRESENTS DATA IN THE FOLLOWING GEOGRAPHIC SYSTEMS:

- HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83)

- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)

- PROJECTION: ALASKA 4 FIPS 5004 FEET STATE PLANE

Legend

2014 Wetland Assessment Area (WAA)

Wetlands/Waters Outside WAA

JD Wetlands/Waters in WAA

Relatively Permanent Water (RPW)

Wetland Directly Abutting RPW

Wetland Adjacent To But Not Abutting RPW

RPW Intermittent Stream

RPW Perennial Stream

REV	DATE	BY	DESCRIPTION

Drawing Scale:

0 275 550 1,100 Feet

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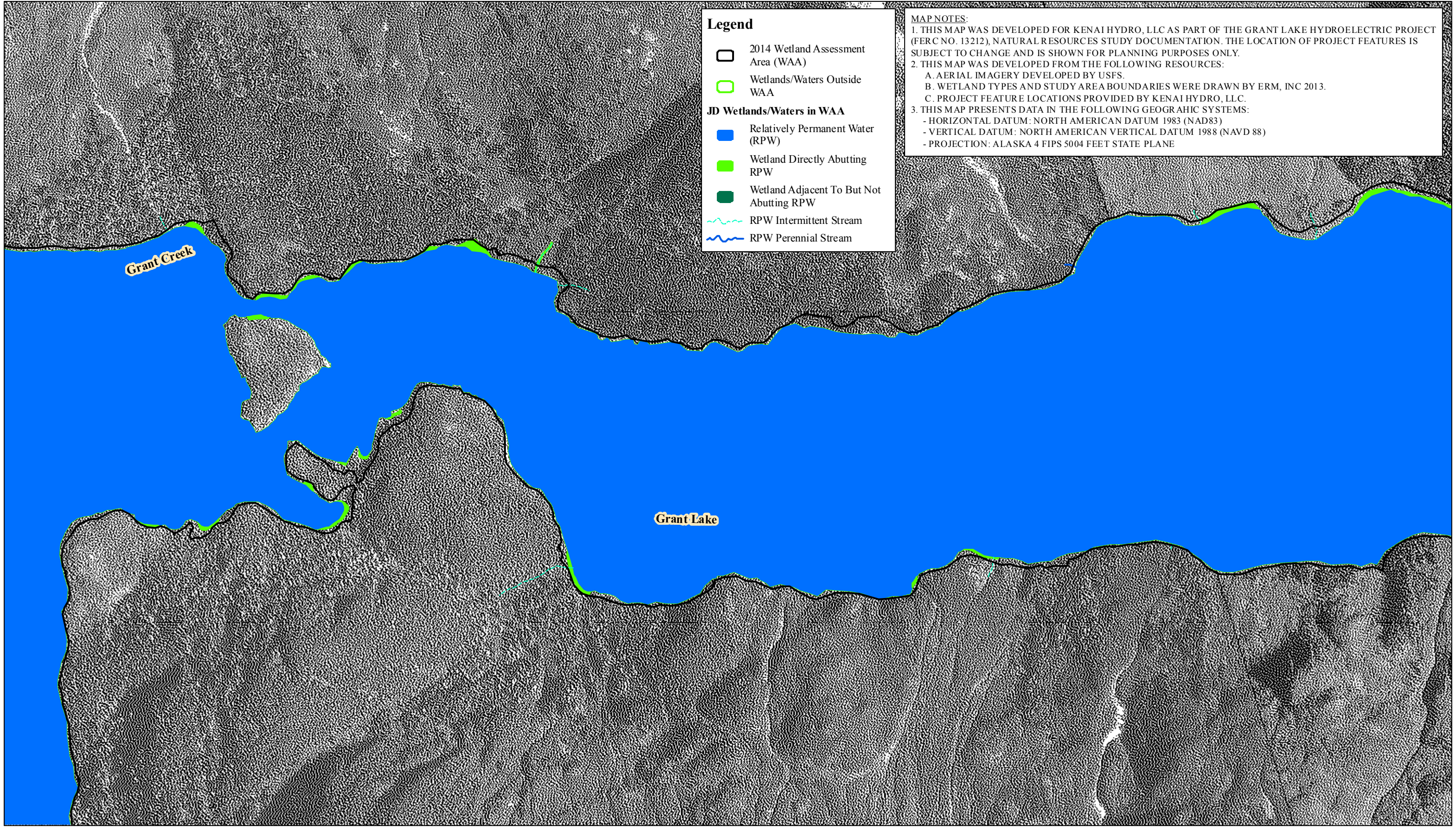
Homer Electric Association, Inc.
A Touchstone Energy Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Appendix A - Figure 4
Wetlands and Waters Jurisdictional Types
Grant Lake - NW Elbow

DESIGNED <u>J. Woodbury</u>	DRAWING 4 of 6
DRAWN <u>M. Hjortsberg</u>	
CHECKED <u>L. Shoutis</u>	
ISSUED DATE <u>2/20/2015</u>	SCALE: 1:7,000



REV	DATE	BY	DESCRIPTION	

Drawing Scale:

02755501,100

Feet

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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Appendix A - Figure 5
Wetland and Waters Jurisdictional Types
Grant Lake - Island East

DESIGNED J. Woodbury

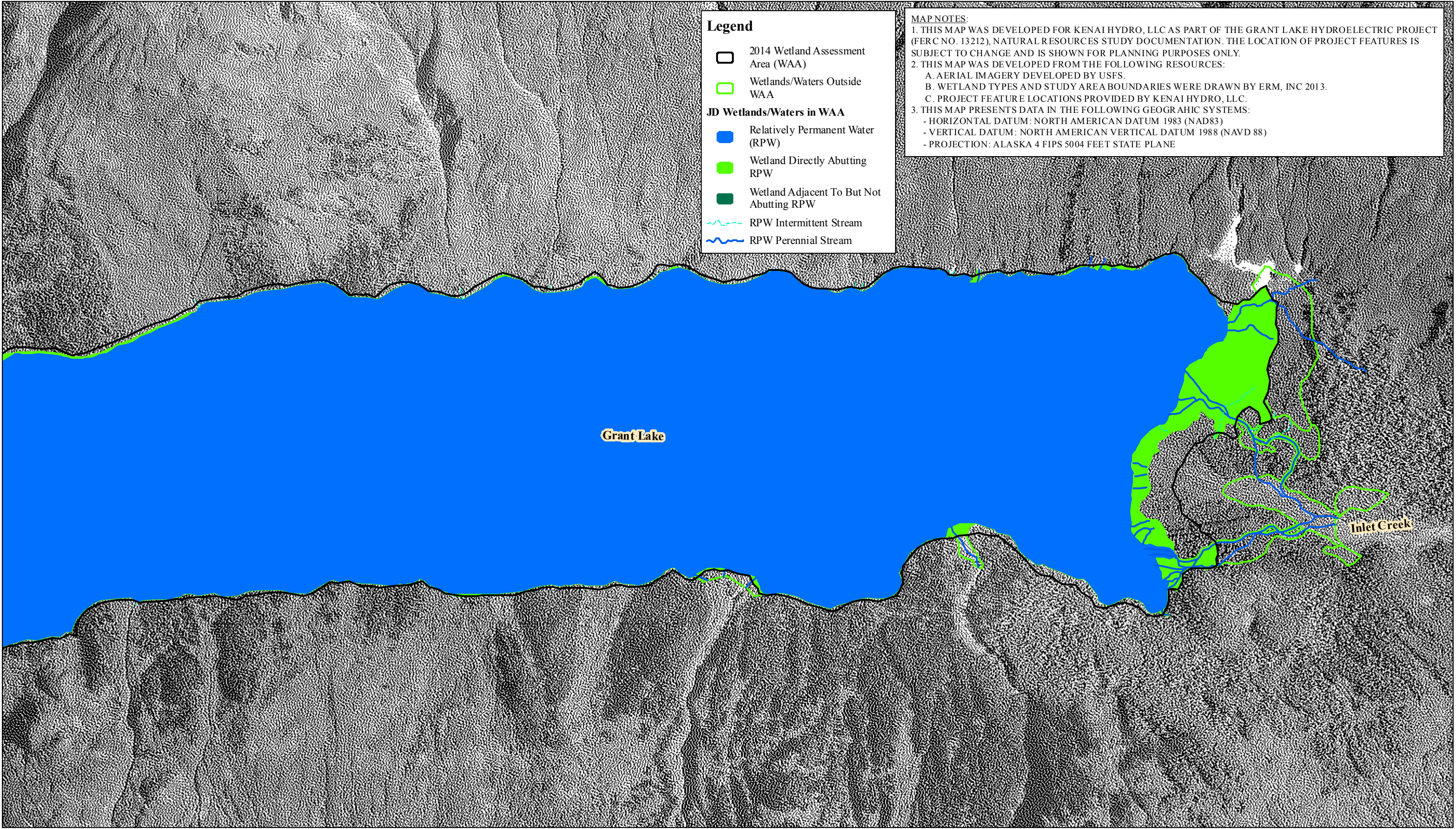
DRAWN M. Hjortsberg

CHECKED L. Shoutis

ISSUED DATE 2/20/2015

DRAWING
5 of 6

SCALE: 1:7,500



REV	DATE	BY	DESCRIPTION	



Drawing Scale:

0 275 550 1,100 Feet

McMILLEN, LLC

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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

JURISDICTIONAL DETERMINATION REPORT

Appendix A - Figure 6
Wetland and Waters Jurisdictional Types
Grant Lake - East End

DESIGNED J. Woodbury

DRAWN M. Hjortsberg

CHECKED L. Shoutis

ISSUED DATE 2/20/2015

DRAWING
6 of 6

SCALE: 1:9,900

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

ELECTRONICALLY FILED

March 27, 2015

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: Draft License Application for Kenai Hydro, LLC - Grant Lake Hydroelectric Project (FERC No. 13212)

Dear Secretary Bose:

Kenai Hydro, LLC (KHL) hereby submits its Draft License Application (DLA) pursuant to 18 C.F.R. § 5.16 for the proposed Grant Lake Hydroelectric Project (FERC No. 13212) (the "Project").

The proposed Project would be located near the city of Moose Pass, Alaska, on Grant Creek and have an installed capacity of 5.0 megawatts (MW). KHL is proud of the quality science and engineering that has gone into the evaluation of this project and is extremely encouraged by the results and collaboration that has taken place during the licensing process. Our extensive record and associated filings of reports, numerous meetings minutes, comment responses, presentations, etc. speak to this and are directly reflective of our commitment to operate the Project in an environmentally conscious and dependably efficient manner consistent with all requirements put forth in a FERC license order.

On January 27, 2015, KHL filed a timely request for an extension of the Project Preliminary Permit. On February 27, 2015, FERC issued order denying the extension of the term of the preliminary permit. On March 27, 2015, KHL filed a request for rehearing on the order denying the 10 month preliminary permit extension. This DLA further demonstrates the significant progress KHL has made toward Project development.

The entire DLA submittal is being e-filed, as specified below.

Volume	Security Designation	Content
Volume 1	Public	• Initial Statement • Exhibit A • Exhibit B • Exhibit C • Exhibit D • Exhibit E, attachments: ○ Attachment E-1, consultation record and documentation ○ Attachment E-2, Aquatic Mapping and Instream Flow Study, Addendum ○ Attachment E-3, Terrestrial Resources Study, Final Report Addendum • Exhibit F <i>[provided in its entirety in Volume 3 (see below)]</i> • Exhibit G
Volume 2	Privileged	Consultation records regarding historic and archaeological resources
Volume 3	Critical Energy Infrastructure Information (CEII)	Exhibit F

Volume 2 includes consultation records containing sensitive, detailed information on location of historic and archeological resources, for which, pursuant to 18 C.F.R. §§ 388.112(b) and 388.113(c)(1), we accordingly request designation and special treatment as Privileged material.

Volume 3 includes Exhibit F in its entirety (Supporting Design Report and preliminary design drawings of principal Project works), for which, pursuant to 18 C.F.R. §§ 388.112(b) and 388.113(c)(1), we accordingly request designation and special treatment as CEII.

KHL is mailing a CD of Volume 1 and/or emailing notification of the DLA's submittal and availability on FERC's e-library and KHL's project website (<http://www.kenaihydro.com/>) to each person on FERC's official service and mailing lists and each person on the attached Distribution List. The entities include the Director of FERC's Portland Regional Office and those resource agencies, Native tribes, non-governmental organizations, and members of the general public that have expressed continued interest in the licensing proceedings. Once filed, all reviewing agencies and individuals will have a requisite 90 day comment period, per the FERC Traditional Licensing Process to complete their review and submit comments to FERC and KHL.

KHL has worked with its stakeholders to create a list of necessary management plans and appropriate protection, mitigation and enhancement (PM&E) measures and is currently finalizing the development of these. All plans and associated PM&Es will be distributed to FERC and stakeholders within the next 45 days for review. This will allow for a synonymous review and comment period with the DLA. The management plans and PM&E measures will then be refined per relevant comments and integrated into the Final License Application (FLA) filing.

KHL looks forward to continuing consultation and collaboration on this licensing effort with FERC and the interested stakeholders. If you have any questions regarding KHL's DLA, I can be contacted via email at msalzetti@homerelectric.com or by phone at (907) 283-2375.

Sincerely:



Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Kenai Hydro, LLC
3977 Lake Street
Homer, AK 99603

Enclosures

Cc: Service List; Distribution List (see attached)

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Soldotna, AK 99669
ginny.litchfield@alaska.gov

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Resurrection Bay Conservation
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prufrock@arctic.net

Daniel Mahalak
KPB Capital Project/Hydrology
P.O. Box 2646
Seward, AK 99664
DMahalak@borough.kenai.ak.us

Frances Mann**
U.S. Fish and Wildlife Service
605 W. 4th Ave., Ste. G61
Anchorage, AK 99501

Katherine McCafferty**
U.S. Army Corps of Engineers
805 Frontage Rd., Ste. 200C
Kenai, AK 99611
katherine.a.mccafferty2@usace.army.mil

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P.O. Box 111020
Juneau, AK 99811-1020
carl.reese@alaska.gov

Karen Rogina
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3000 C St, Suite 301
Anchorage, AK 99503
info@chenega.com

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pamela.russell@alaska.gov

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280 Airport Way
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president@eklutna-nsn.gov

Melanee Stevens
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P.O. Box 988
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btrefon@kenaitze.org

USACE CEPOA-RD**
P.O. Box 6898
Jber, AK 99506-6898

U.S. Dept. of the Interior**
Office of Environmental Policy
and Compliance
1689 C St., Rm. 119
Anchorage, AK 99501-5947

U.S. Dept. of the Interior**
Office of the Solicitor
4230 University Dr., Ste. 300
Anchorage, AK 99508

U.S. Fish and Wildlife Service
Regional Office
1011 East Tudor, MS 331
Anchorage, AK 99503

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Frank Winchell**
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Donna Wottlin
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Brad Zubeck**
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280 Airport Way
Kenai, AK 99611
bzubeck@homerelectric.com

NOTE: Notice of DLA filing and its availability at www.kenaihydro.com was sent via email to all parties on the distribution list above, if an email address is available. Parties that are on the FERC Service or Mailing List were also mailed a CD of the DLA and are marked (**).

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail/One-on-One Meeting Log

Contact Name: Dave Bryce → Dave Bryson

Agency/Organization: Abutting Land Owner

Phone No./E-mail Address: (775) 442-0077

Date: 5/27/2015

Time: 8:36 a.m. AT

Grant Lake Licensing Team Contact: Mike Salzetti

Summary of Conversation and/or E-mail Exchange:

1. Concerned about the clearing distance on the power line.
2. Prefers that we gate the road.
3. Is interested in power. I told him that it was CEA's territory but once the project was built that he should again talk to CEA and HEA to see if an arrangement could be made.

Note that his name is Dave Bryson, not Brice. His father's name was Leroy.

From: dave bryson [mailto:dave_bryson@hotmail.com]
Sent: Wednesday, May 27, 2015 9:30 AM
To: Salzetti, Mikel
Cc: tressa bryson
Subject: RE: Kenai Hydro

Thanks Mike I will send her a letter

Dave Bryson
dave_bryson@hotmail.com

From: MSalzetti@HomerElectric.com
To: Dave_bryson@hotmail.com
Subject: Kenai Hydro
Date: Wed, 27 May 2015 17:27:50 +0000

Dave:

It was a pleasure speaking with you this morning. I hope that I was able to answer your questions. Here is the best way to submit comments to FERC:

write up your comments and mail them to:

Honorable **Kimberly D. Bose**, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Make sure you reference the Grant Lake Project Number (P-13212) in your opening and state that your comments relate to the KHL Draft License Application.

Best Regards,

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development

Homer Electric Association

(907) 283-2375 *work*

(907) 398-5073 *Mobile*

From: Warnock, Cory
Sent: Wednesday, May 27, 2015 9:07 PM
To: Grant Lake Mining
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: RE: Draft Grant Lake Project (P-13212) Management Plans

Hi Paul,

All water quality, water temperature and hydrology data associated with the Grant Lake licensing studies are detailed in the Water Resources Study Report located on the Kenai Hydro website at: <http://www.kenaihydro.com/natural-resources.htm>

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

-----Original Message-----

From: Grant Lake Mining [<mailto:paul@grantlakemining.com>]
Sent: Wednesday, May 27, 2015 8:50 PM
To: Warnock, Cory
Subject: RE: Draft Grant Lake Project (P-13212) Management Plans

Hi Cory,

Could you send any water quality test data you developed from Grant Lake?
In 2013, you had mentioned you would send it when completed.

Thanks,

Paul T. Torgerson
The Case Mine
paul@grantlakemining.com

-----Original Message-----

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Friday, May 15, 2015 2:39 PM
To: 'Monte Miller'; 'Patricia Berkahn (patricia.berkhahn@alaska.gov)'; 'Joe Klein'; 'Ginny Litchfield (ginny.litchfield@alaska.gov)'; 'Jason Mouw'; Begich, Robert N (DFG); 'Judy Bittner'; shina.duvall@alaska.gov; carl.reese@alaska.gov; Schade, David W (DNR); 'Lesli Schick (lesli.schick@alaska.gov)'; 'Robin Swinford'; Thomas, Ryan J (DNR); sfishergoad@aidea.org; Daniel J. Hertrich; david.griffin@alaska.gov; 'pamela.russell@alaska.gov'; jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; 'Gary Fandrei'; keeper@inletkeeper.org; painter@arctic.net; 'Doug Mutter'; phillip_johnson@ios.doi.gov; joe.darnell@sol.doi.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; douglas.johnson@ferc.gov; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'Paul Torgerson (paul@grantlakemining.com)'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; kna@alaska.net; ricky@krsa.com; 'exec@kenaitze.org'; 'Brenda Trefon'; mmueller@kpb.us; ikerdhome@gmail.com; DMahalak@borough.kenai.ak.us; jczarnezi@borough.kenai.ak.us; jmohorci@borough.kenai.ak.us; admin@moosepassalaska.com; 'jan@hydroreform.org'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; info@salamatof.com; johnb@ssraa.org;

tbristol@tu.org; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Denise Koopman (denise.koopman@usace.army.mil)'; CEPOA-RD_Kenai@usace.army.mil; rbirk@fs.fed.us; 'Kevin Laves (klaves@fs.fed.us)'; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'jeavis@fs.fed.us'; 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); 'Lynnda Kahn'; socheata_lor@fws.gov; frances_mann@fws.gov; Jeffry Anderson; 'Phil Brna'; ak_fisheries@fws.gov; 'Brent Goodrum'; 'waterlaw@uci.net'; Katharine Glaser; jjodhner@arctic.net; claireshipon@gmail.com; info@chenega.com; president@eklutna-nsn.gov; 'ntc@niniichiktribe-nsn.gov'; 'Kime, Sherry D -FS'; mike@alaska-energy.com; irene@arctic.net; bearimage.dw@gmail.com; katie.johnson@alaska.gov; jslang11@yahoo.com; pm99588@yahoo.com; peruprairie@hotmail.com; andbacon2@yahoo.com; dyrkss@yahoo.com; jestes@cityofseward.net Cc: 'Mike Salzetti'; Zubeck, Brad; Janorschke, Brad; 'JGallagher@HomerElectric.com'; Andersen, Emily; McMillen, Morton D.; Warnock, Cory
Subject: Draft Grant Lake Project (P-13212) Management Plans

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

Per KHL's commitment, I am attaching three draft Grant Lake management and monitoring plans (Plans) and a Biological Evaluation (BE) for your review/comment. These Plans and BE are:

- * Draft Grant Lake Operation Compliance Monitoring Plan
- * Draft Grant Lake Avian Protection Plan
- * Draft Grant Lake Vegetation Management Plan (Public Version)
- * Draft Grant Lake Biological Evaluation for Plants

Additional documents that have been developed and are being sent to the appropriate entities for review and comment based on either their privileged or content specific nature include:

- * Draft Grant Lake Historic Properties Management Plan
- * Draft Grant Lake Vegetation Management Plan (Privileged Version)
- * Clean Water Act Section 404 Application (Army Corps of Engineers)

In addition to all of the documents mentioned above, a Draft Biotic Monitoring Plan is in the final phases of development and will be distributed for public review and comment shortly. Per previous communications, it continues to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27, 2015 which formally began a 90 day review period which will conclude on June 25, 2015. It is KHL's desire to receive comments from not only the DLA by this date but also the Plans and BE. This will assist in facilitating an efficient comment review and document modification process and ultimately allow us to develop the most comprehensive and collaborative Final License Application for FERC review.

KHL will be filing these Plans and BE with FERC and placing the public documents on the Kenai Hydro website to provide additional mechanisms for download and review. At the risk of being redundant, I'm also copying the instructions I provided for accessing the DLA from FERC eLibrary (see below). With respect to comment responses, if you would like to submit comments in written form, send them to the following address and reference the FERC Project Number (P-13212):

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission

888 First Street, NE
Washington, DC 20426

Instructions For Accessing the Management/Monitoring Plans and BE via FERC eLibrary

- * Click on link:
<https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- * Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between May 15th and May 25th. This will ensure that the DLA filing is included in your request.
- * Under the "Library" category, make sure "Hydro" is selected.
- * Under the "Docket Number" category, enter "P-13212"
- * Click "Submit" at the bottom of the page.
- * A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific plans that you'd like to review, select the .pdf option and the selected file will open on your computer.
As always, if there are any questions, please don't hesitate to contact me.

Thanks.

Cory Warnock
Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates<<http://www.mcmjac.com/>>
5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c
warnock@mcmjac.com<<mailto:warnock@mcmjac.com>>

From: Warnock, Cory
Sent: Thursday, May 28, 2015 3:28 PM
To: 'Monte Miller'
Subject: Call

Hi Monte,

Been in meetings the last couple days. Just got back to my office and listened to your voicemail. I have a good amount of catch-up to do the rest of the day today (and tomorrow) but if you can give me a sense of your availability tomorrow, I'll set aside some time to give you a call.

Let me know and thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail /One on One Meeting Log

Contact Name: Monte Miller

Agency/Organization: Alaska Department of Fish and Game

Phone No./E-mail Address: monte.miller@alaska.gov

Date: 5/29/15

Time: 10:00 am PST

Grant Lake Licensing Team Contact: Cory Warnock

Summary of Conversation and/or E-mail Exchange: Mr. Warnock responded to a call and associated email from Mr. Miller who wanted to discuss timelines associated with the upcoming deadline for DLA and management plan comments. Mr. Miller asked why another meeting wasn't being scheduled prior to the DLA comment period coming to an end to go over the "design changes" associated with the project so that associated clarity could be reached prior to commenting. Mr. Warnock stated that KHL had no plans for any further consultation until after the comments from the DLA and the management plans were received so that if, based on comments, there were any outstanding issues that required further dialogue prior to development of the FLA, they could be had at that time. Mr. Warnock went on to clarify that no "design changes" to the Project had occurred since the last set of meetings. All that had been done in the interim and for the purposes of the DLA was to add additional detail to the existing infrastructural design to present as comprehensive a picture of the engineering and associated operations as possible.

Mr. Miller then stated that he and his team understood that the deadline for the DLA responses was June 25, 2015 and said that they were working to meet that. He did ask if, given that June 25th was a Thursday, if they needed a few more days over the weekend, if KHL would be amendable with getting comments back early the next week. Mr. Warnock stated that he didn't want to speak for KHL or Mike Salzetti but he assumed a few days (into early the next week) would probably be acceptable.

Mr. Miller and Mr. Warnock briefly discussed next steps and Mr. Warnock stated that once comments were reviewed and synthesized, KHL was planning on doing an evaluation of the substance of comments and would then determine the appropriate mechanism (if needed) for discussion respective resource area comments with appropriate stakeholders. He went on to say that at this time, KHL was considering the possibility of a series of conference calls to discuss comments (if needed). Mr. Miller stated that he understood but could also see the potential need for an in-person meeting to discuss comments. Mr. Warnock reiterated that once comments were reviewed, appropriate arrangements would be made.

Call Time – Approximately 30 minutes

From: Kenneth Hogan <Kenneth.Hogan@ferc.gov>
Sent: Friday, May 29, 2015 9:55 AM
To: Warnock, Cory
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: RE: Grant Lake Project DLA Review

Thank you Cory and Mike. The information you provided is relevant to our decision making process and consistent with the information provided by Monte Miller of ADFG.

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Friday, May 29, 2015 12:26 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: RE: Grant Lake Project DLA Review

Hi Ken,

As a follow-up to my last email I just wanted to let you know specifically that we will be filing two letters with FERC over the weekend pertaining to the Mark Luttrell request and the combined KRWF and CFWRA request.

As an aside and with respect to your inquiry below, Mike (Cc'd) wanted me to provide some additional context related to the budgetary situation in Alaska as it pertains to this project and potential lay-offs. On May 18, 2015 Alaska State Governor, Bill Walker, sent a letter to State employees regarding the Fiscal Year 2016 budget transmitted to his Office by the Legislature and his subsequent decision to veto unfunded items. Going forward. If the Governor and the Legislature cannot come to terms on a budget, it appears that Governor Walker plans to lay-off state workers that are not critical to life, health and safety. However, lay-offs will not occur until July which is after the June 27, 2015 due date for Grant Lake Draft License Application comments. The Alaska State budget is fully funded through the entire duration of the 90 day comment period.

Again, just additional, accurate context. Thanks and we'll get those letters filed over the weekend.

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan [<mailto:Kenneth.Hogan@ferc.gov>]
Sent: Wednesday, May 27, 2015 1:11 PM
To: judy.bittner@alaska.gov; shina.duvall@alaska.gov; robert.begich@alaska.gov; patricia.berkhahn@alaska.gov;

joe.klein@alaska.gov; david.griffin@alaska.gov; ginny.litchfield@alaska.gov; jason.mouw@alaska.gov;
gary.prokosch@alaska.gov; ryan.j.thomas@alaska.gov

Cc: Mike Salzetti; Warnock, Cory; Timothy Konnert

Subject: Grant Lake Project DLA Review

Folks,

The Commission, via a filing made by the Kenai River Watershed Foundation, recently became aware of a potential 30-day layoff for non-essential Alaska State Government personnel. If this is true, and a 30-day layoff were to occur, would it significantly affect you or your agency's ability to review and provide meaningful comments on the Grant Lake Draft License Application?

Please respond prior to June 1st.

Sincerely,

Ken Hogan

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Kenneth Hogan <Kenneth.Hogan@ferc.gov>
Sent: Friday, May 29, 2015 7:49 AM
To: Warnock, Cory
Cc: 'Mike Salzetti'; Andersen, Emily; Timothy Konnert; Frank Winchell
Subject: RE: Grant Lake Call

Okay, thanks Cory.

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Friday, May 29, 2015 10:42 AM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Andersen, Emily; Timothy Konnert; Frank Winchell
Subject: RE: Grant Lake Call

Thanks Ken for the quick response and clarity regarding what you can/cannot discuss. Our primary interest was process related but given the topics and the fact (as you state) there are pending decisions associated with them, KHL will be filing responses very shortly.

Again, appreciate the note,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Friday, May 29, 2015 6:19 AM
To: Warnock, Cory
Cc: 'Mike Salzetti'; Andersen, Emily; Timothy Konnert; Frank Winchell
Subject: RE: Grant Lake Call

Hi Cory,

I'm sorry, but I cannot discuss either of the two topics with you; they are both pending a Commission decision. If KHL wishes to file comments or concerns addressing either request you may do so, but you should do it quickly. If you wish to only discuss process related issues, I am available at 3 today.

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Thursday, May 28, 2015 6:38 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Grant Lake Call

Hi Ken,

Was wondering what your availability looked like to have a quick discussion related to Grant Lake with Mike Salzetti (Cc'd) and I. We wanted to touch base on a couple of topics, 1) Mark Luttrell Section 106 letter response and, 2) KHL thoughts on the Kenai River Watershed Foundation letter/request.

Mike's availability is somewhat limited tomorrow and Monday but in the interest of having the call prior to him taking some vacation, could you please let me know if either of the times suggested below would work to chat:

- Friday (tomorrow) at 3:00pm EST
- Monday at 11:00am EST

Once I hear back from you regarding availability, I'll get a gotomeeting invite sent out.

Thanks and hope all is well,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Warnock, Cory
Sent: Saturday, May 30, 2015 6:18 PM
To: 'Ken Hogan'
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Response to Kenai River Watershed Foundation and Center For Water Advocacy
Attachments: KHL Response to KRWF and CFWA Requests (P-13212).pdf

Hi Ken,

On behalf of Kenai Hydro, LLC, I filed a letter today in response to KRWF's and CFWA's requests dated May 26, 2015 and May 28, 2015, respectively. Per that filing and the associated Cc commitment therein, I wanted to get you a copy of the filing.

Thanks and don't hesitate to let me know if you have any questions,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

VIA ELECTRONIC FILING

May 29, 2015

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: Kenai River Watershed Foundation and Center For Water Advocacy Requests for Extension of the Draft License Application Review Period for the Grant Lake Hydroelectric Project (P-13212)

Dear Secretary Bose:

This letter is in response to the May 26, 2015 Kenai River Watershed Foundation (KRWF) and the May 28, 2015 Center For Water Advocacy (CFWA) letters requesting an extension of the existing 90 day review period for the currently distributed Draft License Application (DLA) for the proposed Grant Lake Hydroelectric Project (Project). Per the FERC record and parallel distribution to stakeholders and the interested public, Kenai Hydro (KHL) distributed the DLA for review and comment on March 27, 2015 which, per the Traditional Licensing Process (TLP) regulations, then corresponds with a comment deadline of June 25, 2015.

The intent of this letter is to respond to the erroneous statements from the aforementioned KRWF and CRWA correspondence and formally request that an extension of the DLA comment period not be granted. The attached table identifies the incorrect statements within these letters and provides the appropriate factual clarification. KHL is concerned by the numerous inaccurate and misleading comments made by the KRWF and the CFWA in these letters and encourages FERC to review the comprehensive Project record to judge for itself the inaccuracies associated with these and other KRWF and CFWA statements made on the record during this licensing process.

KHL feels very strongly, based upon all of the studies and analysis that has gone into the ultimate development of the DLA that the Grant Lake Project represents an environmentally responsible, long-term opportunity for the State of Alaska to expand its hydropower resources, further remove itself from dependence on fossil fuels for power generation and assist in meeting its renewable energy goal to produce 50% of Alaska's electrical energy from renewable resources by 2025 as adopted by the State of Alaska Legislature in 2010. To have this process delayed further due to inaccurate depictions of the process, both specific to the Grant Lake Project and the FERC TLP, would send a poor message to other responsible project proponents and the hydro community as a whole. As such and based on the request made in their corresponding letters to the FERC, KHL requests that an extension to the existing comment period not be granted.

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

Sincerely:

A handwritten signature in blue ink that reads "Mike Salzetti". The signature is written in a cursive, flowing style.

Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Kenai Hydro, LLC

Cc – Ken Hogan (FERC)

Enclosures

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

Attachment

Pertinent Examples of Inaccurate Statements Made by KRWF and CFWA

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

Statement	Fact
<u>KRWF and CFWA statements in separate letters to FERC dated May 26 and May 28, 2015 respectively:</u> <i>“Kenai Hydro LLC (KHL) filed and incomplete Draft License Application (DLA) on March 27. A routine 90-day comment period was established with a June 29 deadline.”</i>	The DLA filed by KHL was complete and represented the collaborative and comprehensive level of effort taken over the past three and half years. The general term “incomplete” is inaccurate and not consistent with the draft phase of this document. Numerous conversations were had with FERC during the development of the DLA to confirm that the contents of this document were complete and consistent with this phase of this process. KHL fully intends on revising the DLA during preparation of the Final License Application relative to comments received during the current 90 day review period. In addition, the “June 29 deadline” referred to in the KRWF and CFWA letter is inaccurate. The comment deadline based upon the DLA submittal date of March 27, 2015 is June 25, 2015.
<u>KRWF and CFWA statements in separate letters to FERC dated May 26 and May 28, 2015 respectively:</u> <i>“KHL publicly filed four (4) additional public DLA documents and three (3) additional restricted DLA documents on May 18. The 90-day comment deadline was not correspondingly adjusted to reflect this subsequent filing. Ninety days after the May 18 filing is August 16, 2015.” and “KHL filed four several and substantial additional DLA related monitoring plans, reports and biological evaluations on May 18, 2015.1 The 90-day comment deadline was not correspondingly adjusted to reflect this subsequent filing. Ninety days after the May 18 filing is August 16, 2015.”</i>	Per the Traditional Licensing Process, management plans are not required to be developed and distributed for comment corresponding to the formal distribution of the DLA; nor is an extension of that term if management plans are electively selected to be developed. Per the multiple communications with stakeholders, KHL elected to proactively develop management plans in an effort to display further transparency with respect to Project impacts (positive and negative) and KHL’s proposals for mitigating them and in this case enhancing the existing environment to promote a higher level of aquatic utilization than currently exists under natural conditions.

Kenai Hydro, LLC

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Statement	Fact
<u>KRWF and CFWA statements in separate letters to FERC dated May 26 and May 28, 2015 respectively:</u> <i>"KHL is observed to have strategically manipulated the March 27, 2015 filing date from a previously announced and anticipated 2014 Fall-Winter filing, to coincide with the well-known and crucial, seasonal April to June 2015 resource agency mobilization period in Alaska. Non-programmatic matters cannot be given a priority during this time. The apparent KHL strategy is to impose an impossible paperwork burden on the resource agencies and the general public, anticipating default pass-through or declined reviews. Attempting to game the system in this manner is unacceptable. There is also speculation that this burdensome DLA filing strategy may be an attempt to detract attention from ongoing questions about qualifications and competence."</i> <u>and</u> <i>"KHL changed the previously announced and anticipated 2014 Fall-Winter filing date for the Application to March 27, 2015 which coincides with the crucial, seasonal April to June 2015 resource agency data collection and mobilization period in Alaska. Non-programmatic matters, therefore, cannot be given a priority during this time. This change imposes a substantial paperwork burden on the resource agencies and the general public and will, likely, lead to default pass-through or declined reviews."</i>	These statements are simply inaccurate. Earlier in the process, KHL did state that an approximate DLA submittal timeline of late 2014 was possible. The primary reason for this date being re-defined to March of 2015 was the additional collaboration that KHL committed to various stakeholders to reach additional clarity on certain aspects related to biological impacts (positive and negative) along with engineering infrastructure development.

Kenai Hydro, LLC

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Homer, AK 99603

Statement	Fact
<u>KRWF and CFWA statements in separate letters to FERC dated May 26 and May 28, 2015 respectively:</u> <i>“Unfortunately, State of Alaska (SOA) resource agencies are now under additional stress, due to chaos and program contraction resulting from an unfunded operating budget. As of this motion's May 26 filing date, 30-day layoff notices are scheduled to be issued on June 1, for all state agencies not involved with essential life, health, and safety program responsibilities. Respected SOA resource agencies like the Department of Natural Resources and the Alaska Department of Fish and Game, each having critically important oversight responsibilities in this matter, are not considered generally essential in a budget crisis and will be shut down. There is no expectation that the large DLA will be addressed, let alone comprehensively reviewed, under these circumstances.” and “SOA resource agencies like the Department of Natural Resources and the Alaska Department of Fish and Game, each having critically important oversight responsibilities in this matter, are not considered generally essential in a budget crisis and will be shut down. There is no expectation that the large DLA will be addressed, let alone comprehensively reviewed, under these circumstances</i> The general public depends upon resource agency expertise and authority to protect the highest public values. It is unreasonable to expect resource agencies to re-prioritize and set aside vital programs to respond to poorly timed filings by KHL. It is also recognized that additional feasibility studies will be required. It is important for these studies to be well defined by the agencies.”	KHL is well-versed in the current budgetary issues associated with the State of Alaska and continues to hope that potential lay-offs can be avoided. As it pertains to this issue, on May 18, 2015 Alaska State Governor, Bill Walker, sent a letter to State employees regarding the Fiscal Year 2016 budget transmitted to his Office by the Legislature and his subsequent decision to veto unfunded items. Going forward. <u>If</u> the Governor and the Legislature cannot come to terms on a budget, it appears that Governor Walker plans to lay-off state workers that are not critical to life, health and safety. However, lay-offs will not occur until July which is after the June 25, 2015 due date for Grant Lake Draft License Application comments. The Alaska State budget is fully funded through the entire duration of the 90 day comment period.

From: Warnock, Cory
Sent: Saturday, May 30, 2015 6:15 PM
To: 'Ken Hogan'; 'frank.winchell@ferc.gov'
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Response to Mark Luttrell Section 106 Filing
Attachments: Response to Luttrell 106 Request (P-13212).pdf

Hi Ken and Frank,

On behalf of Kenai Hydro, LLC, I filed a letter today in response to Mark Luttrell's request dated May 26, 2015. Per that filing and the associated Cc commitment therein, I wanted to get you a copy of the filing.

Thanks and don't hesitate to let me know if you have any questions,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

VIA ELECTRONIC FILING

May 29, 2015

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: Mark Luttrell Request for Designation as Concurring Party Status Related to the Section 106 Process for the Grant Lake Hydroelectric Project (P-13212)

Dear Secretary Bose:

This letter is in response to Mark Luttrell's request to the FERC dated May 26, 2015 to be granted "concurring party status to the programmatic agreement". As his interest has dictated, Mr. Luttrell has been involved and consistently communicated with on this Project since 2009 as our attached consultation record displays. Mr. Luttrell had some initial communications with Kenai Hydro (KHL) in 2009 and 2010. As the Section 106 Process (Process) and associated confidentiality requirements began to take place in 2013, Mr. Luttrell requested that KHL grant him status that would permit him to view and comment on all privileged information and documentation associated with cultural proceedings. A confidentiality agreement was sent to Mr. Luttrell by KHL and signed by Mr. Luttrell granting him his requested designation. Since this agreement, Mr. Luttrell has been permitted to participate in all proceedings and review and comment on all documents associated with the Process; this includes the recently distributed Historic Properties Management Plan (HPMP) developed and distributed to appropriately designated entities for review and comment.

KHL's commitment to Mr. Luttrell in this respect will continue until the Process is complete and requisite signatures on the resulting Programmatic Agreement developed by the FERC are attained. Mr. Luttrell already has access to all of the "privileged documents within the section 106 NHPA process". Our proposed mitigation measures are laid out in the HPMP and consist primarily of periodic monitoring of site condition and the installation of interpretive panels at particular sites near the Project area. Again, Mr. Luttrell received a copy of the HPMP to review and comment on per our confidentiality agreement which is his opportunity to "participate in privileged discussion of the mitigation of adverse effects in the project area....". KHL welcomes his input in the Process.

Mr. Luttrell's current status grants him access and input to everything that he is requesting in his letter. Granting formal status as a "concurring party to the programmatic agreement" is not necessary. If you have further questions regarding this matter, please do not hesitate to contact me.

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

Sincerely:

A handwritten signature in blue ink that reads "Mike Salzetti".

Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Kenai Hydro, LLC
3977 Lake Street
Homer, AK 99603

Cc – Ken Hogan (FERC)
Cc – Frank Winchell (FERC)

Enclosures

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

Attachment

Grant Lake Consultation Record as Presented in the Draft License Application

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
7/1/2009	Paul McLarnon (HDR) and Karen O'Leary (USFS) exchanged emails regarding Kenai Hydro's special use permit for studies.	USFWS	2009-07-01USFSSpecialUsePermit.pdf
7/8/2009	Jenna Borovansky (LVA) and Mark Luttrell (RBCA) exchanged emails regarding public availability of the PAD.	Resurrection Bay Conservation Alliance	2009-08-07LuttrellPADavailability.pdf
8/6/2009	Kenai Hydro, LLC filed a Pre-Application Document (PAD) with FERC.	All Licensing Contacts	2009-08-06PAD.pdf
8/27/2009	Jenna Borovansky (LVA) provided Mark Luttrell (RBCA) with requested PAD background information via email.	Resurrection Bay Conservation Alliance	2009-08-27LuttrellRBCA.pdf
9/1/2009	Jenna Borovansky (LVA) emailed agencies a reminder that comments on Kenai Hydro's request to use the Traditional Licensing Process were due.	ADFG; ADNR; USFWS; USFS; USACE; NOAA; NPS	2009-09-01TLPcommentReminder.pdf
9/14/2009	Steve Gilbert (KHL) filed with FERC a request for use of the Traditional Licensing Process (TLP).	FERC	2009-09-14TLPrequest.pdf
9/15/2009	Jennifer Hill (FERC) sent Steve Gilbert (KHL) a letter authorizing KHL to initiate Section 106 consultation.	FERC	2009-09-15Section106Designation.pdf
9/15/2009	Ann Miles (FERC) issued Steve Gilbert (KHL) a letter approving the use of the TLP.	FERC	2009-09-15TLPApproval.pdf
9/22/2009	Kenai Hydro, LLC held an aquatic resources technical work group meeting with agencies and interested stakeholders, and conducted a site visit to Grant Creek to receive input on the fisheries and instream flow studies.	ADFG; ADNR; USFWS; USFS; NOAA; Citizen	2009-09-22_TWG_Final_Mtg_Summary.pdf
9/23/2009	Jason Werner emailed Brad Zubeck (KHL) information regarding his private property located on Grant Creek.	Property owners	2009-09-23Werner.pdf
9/30/2009	Steve Gilbert (KHL) filed with FERC the second preliminary permit progress report.	FERC	2009-09-30ProgressReport2nd.pdf
10/7/2009	Jim Ferguson (ADFG) emailed Jenna Borovansky (LVA) regarding his availability for upcoming public meetings.	ADFG	2009-10-07FergusonADFG.pdf
10/7/2009	Burce Jaffa emailed Jenna Borovansky (LVA) regarding his availability for upcoming public meetings.	Citizen	2009-10-07Jaffa.pdf
10/7/2009	Lynnda Kahn (USFWS) emailed Jenna Borovansky (LVA) regarding her availability for upcoming public meetings.	USFWS	2009-10-07KahnUSFWS.pdf
10/7/2009	Karen O'Leary emailed Jenna Borovansky (LVA) regarding her availability for upcoming public meetings.	USFS	2009-10-07OlearyUSFS.pdf
10/7/2009	Sue Walker (NOAA-NMFS) emailed Jenna Borovansky (LVA) regarding her availability for upcoming public meetings.	NOAA	2009-10-07WalkerNMFS.pdf
10/7/2009	Jason Werner emailed Jenna Borovansky (LVA) regarding his availability for upcoming public meetings.	Property owners	2009-10-07WernerLandowner.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
10/7/2009	Jenna Borovansky (LVA) emailed all licensing contacts proposed dates for a Joint Meeting and FERC Scoping meeting.	All Licensing Contacts	2009-10-07JointMtgDatesProposal.pdf
10/7/2009	Jenna Borovansky (LVA) emailed the Hydropower Reform Coalition regarding updated contact information.	Hydropower Reform Coalition	2009-10-07HRCcontact.pdf
10/11/2009	Gary Fandrei (CIAA) emailed Jenna Borovansky (LVA) regarding his availability for upcoming public meetings.	Cook Inlet Aquaculture Association	2009-10-11Fandrei.pdf
10/12/2009	Bob Baldwin (FOCL) emailed comments to Jenna Borovansky (LVA) regarding scheduling of scoping meetings.	FOCL	2009-10-12BaldwinFOCL.pdf
10/12/2009	Valerie Connor (Alaska Center for the Environment) emailed Jenna Borovansky (LVA) recommendations for upcoming public meeting locations and participation.	Alaska Center for the Environment	2009-10-12ConnorACE.pdf
10/12/2009	Mark Luttrell (RBCA) emailed Jenna Borovansky (LVA) recommendations for upcoming public meeting locations and participation.	Resurrection Bay Conservation Alliance	2009-10-12LuttrellRBCA.pdf
10/12/2009	Joshua O. Milligan (USFS) emailed Jenna Borovansky (LVA) regarding his availability for upcoming public meetings.	USFS	2009-10-12MilliganUSFS.pdf
10/13/2009	Katherine McCafferty (USACE) emailed Jenna Borovansky (LVA) regarding her availability for upcoming public meetings.	USACE	2009-10-13McCaffertyACOE.pdf
10/21/2009	Karen Kromrey (USFS) emailed Jenna Borovansky (LVA) regarding her availability for upcoming public meetings.	USFS	2009-10-21KromreyUSFS.pdf
10/22/2009	Bruce Jaffaa emailed Jenna Borovansky (LVA) regarding a recommendation from the Moose Pass Advisory Planning Commission to hold a public meeting regarding the Grant Lake Project in Moose Pass.	Moose Pass Advisory Planning Commission	2009-10-22JaffaMPAPC.pdf
10/23/2009	Jenna Borovansky (LVA) emailed all licensing contacts notification of a November 12, 2009 Joint Meeting.	All Licensing Contacts	2009-10-23JointMtgAnnouncement.pdf
10/23/2009	Brad Zubeck (KHL) emailed Moose Pass parties in response to requests regarding the location of public meetings regarding the Grant Lake Project.	All Licensing Contacts; Moose Pass representatives	2009-10-23PublicMtgLocation.pdf
10/27/2009	Steve Gilbert (KHL) filed with FERC notice of the November 12, 2009 Public Meeting.	FERC	2009-10-27PublicMtgNotice.pdf
10/31/2009	Jan Odhner emailed Jenna Borovansky (LVA) regarding the location of the Grant Lake Project.	Citizen	2009-10-31Odhner.pdf
11/6/2009	Lynnda Kahn (USFWS) emailed Siera Brownlee (HDR) regarding wildlife studies and eagle nest locations in the Grant Lake Project area.	USFWS	Priv_2009-11-06KahnUSFWS.pdf
11/10/2009	Jenna Borovansky (LVA) notified Aquatic Resources Technical Work Group members that a meeting summary for the September 22-23, 2009 meeting was available on the Kenai Hydro website and provided an agenda for the November 12, 2009 Joint Meeting.	ADFG; ADNRP; FERC; USFWS; USFS; USACE; NOAA; NPS; Citizen	2009-11-10FinalTWGmtgSummary.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
11/12/2009	KHL held a public meeting regarding the Grant Lake Project licensing process on November 12, 2009.	All Licensing Contacts	2009-11-12PublicMtg.pdf
11/13/2009	Brad Zubeck (KHL) and Karen O'Leary (USFS) exchanged emails regarding Forest Service representation at the November 12, 2009 Joint Meeting.	USFS	2009-11-13OlearyUSFS.pdf
11/19/2009	Brad Zubeck (KHL) emailed Mike Cooney the participant list for the November 12, 2009 Joint Meeting	Citizen	2009-11-19Cooney.pdf
11/24/2009	Jeff Estes (City of Seward) emailed Brad Zubeck (KHL) information regarding the transmission line proposal for the Grant Lake Project.	City of Seward	2009-11-24EstesCityofSeward.pdf
12/4/2009	Kenai Hydro, LLC filed a transcript of the November 12, 2009 Joint Meeting and proof of public notice.	FERC	2009-12-04JointMtgTranscript.pdf
12/7/2009	Jenna Borovansky (LVA) and Mark Luttrell (RBCA) exchanged emails regarding access to the November 12, 2009 Joint Meeting transcript and attendance sheet.	Resurrection Bay Conservation Alliance	2009-12-07LuttrellRBCA.pdf
12/17/2009	Brad Zubeck (KHL) filed a letter with FERC regarding incorrect contact information contained in the Friends of Cooper Lake's December 9, 2009 comment letter.	FERC	2009-12-17FERCkBose.pdf
12/21/2009	Mike Cooney wrote to Kenai Hydro regarding CIRI's participation in Kenai Hydro, LLC and the timing of FERC scoping meetings.	Citizen	2009-12-21Cooney.pdf
12/31/2009	Kenai Hydro, LLC filed affidavits of publication for the Joint Meeting and notice of a public meeting to be held in January 2010 in Moose Pass, Alaska.	FERC	2009-12-31Project13211-13212mtgnotice.pdf
12/31/2009	Jenna Borovansky (LVA) notified all relicensing contacts that a public meeting regarding the Grant Lake Project will be held in Moose Pass, Alaska on January 13, 2010.	All Licensing Contacts	2009-12-31MoosePassMtgNotice.pdf
1/1/2010	William Coulson emailed Brad Zubeck (KHL) comments on the Grant Lake Project.	Citizen	2010-01-01Coulson.pdf
1/8/2010	Brita Mjos emailed Brad Zubeck (KHL) comments on the Grant Lake Project.	Citizen	2010-01-08Mjos.pdf
1/11/2010	Brad Zubeck (KHL) gave a powerpoint presentation to the ADF&G Advisory Committee and answered questions regarding the Grant Lake Project.	ADFG	2010-01-11ADFGAdvisoryCommitteeMtg.pdf
1/11/2010	Valerie Connor provided Kenai Hydro, LLC with comments on the PAD.	Alaska Center for the Environment	2010-01-11ConnorACE.pdf
1/11/2010	Robert Baldwin (Friends of Cooper Landing) provided Kenai Hydro, LLC comments on the Grant Lake PAD.	FOCL	2010-01-11FOCL.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
1/11/2010	Mark Luttrell (RBCA) submitted comments on the Grant Lake PAD to Kenai Hydro, LLC.	Resurrection Bay Conservation Alliance	2010-01-11RBCA.pdf
1/12/2010	Mike Cooney and Brad Zubeck (KHL) exchanged emails regarding information for the January 13, 2010 public meeting in Moose Pass.	Citizen	2010-01-12Cooney.pdf
1/13/2010	Bruce Jaffa emailed Brad Zubeck (KHL) follow-up to the January 13, 2010 public meeting.	Citizen	2010-01-13Jaffa.pdf
1/14/2010	Irene Lindquist emailed Brad Zubeck (KHL) information regarding trails in the Grant Lake Project area.	Citizen	2010-01-14Lindquist.pdf
1/14/2010	Bruce Jaffa emailed Brad Zubeck (KHL) information regarding a cabin located on Grant Lake and local use of the area.	Citizen	2010-01-14Jaffa.pdf
2/8/2010	Kenai Hydro, LLC filed a summary of the January 13, 2010 public meeting in Moose Pass.	FERC	2010-02-08GrantLake_FallsCreek_comments.pdf
3/1/2010	Kenai Hydro, LLC filed updated contact information with FERC.	FERC	2010-03-01_updated_applicant_contact_info_KHL.pdf
3/2/2010	Kenai Hydro, LLC filed its 2009 environmental study report with FERC.	FERC	2010_03_02_P13211_13212KHLstudyreportfiling.pdf
3/4/2010	Jenna Borovansky (LVA) notified all licensing contacts that the 2009 environmental baseline study report was available on the Kenai Hydro website.	All Licensing Contacts	2010-03-04Notice2009StudyReport.pdf
3/4/2010	Jenna Borovansky (LVA) emailed the Aquatics Technical Work Group that the 2009 environmental baseline study report was posted on the Kenai Hydro website.	ADFG; ADNR; FOCL; FERC; USFWS; USFS; USACE; NOAA; NPS; Kenaitze Indian Tribe	2010-03-04TWGstudyReportNotice.pdf
3/5/2010	Bruce Jaffa and Jenna Borovansky (LVA) exchanged emails regarding availability of information from the Moose Pass public meeting.	Citizen	2010-03-05Jaffa.pdf
3/15/2010	Brad Zubeck (KHL) exchanged emails with Thomas Harkreader regarding the mine near Grant Lake.	Citizen	2010-03-15Harkreader.pdf
3/31/2010	Steve Gilbert (KHL) filed with FERC the third preliminary permit progress report.	FERC	2010-03-31ProgressReport3rd.pdf
4/16/2010	Sirena Brownlee (HDR) discussed by phone the timing of bear den surveys in the Grant Lake area with Jeff Selinger (ADFG).	ADFG	2010-04-16SelingerADFG.pdf
4/16/2010	Sirena Brownlee (HDR) emailed Jeff Selinger (ADFG) to confirm the timing of bear den surveys in the Grant Lake area.	ADFG	2010-04-16SelingerADFG2.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
4/20/2010	Brad Zubeck (KHL), Mike Salzetti (KHL), Jenna Borovansky (LVA), Joe Adamson (FERC), Jennifer Hill (FERC), and Kim Nyguen (FERC) met by conference call to discuss the initiation of the 2010 study season and early scoping.	FERC	2010-04-20FERC.pdf
4/20/2010	Lesli Schick (ADNR) emailed John Wolfe (HDR) maps with the Iditarod Trail location in the Trail Lake/Grant Lake area.	ADNR	2010-04-30SchickANDR.pdf
4/23/2010	Jenna Borovansky (LVA) emailed agency and tribal representatives regarding their availability for early June meetings.	ADFG; FERC; USFWS; USFS; USACE; NOAA; NPS; Kenai Peninsula Borough; EPA; Qutekcak Native Tribe; Kenaitze Tribe	2010-04-23AgencyStudyNotice.pdf
4/23/2010	Jenna Borovansky (LVA) emailed licensing contacts that the 2010 study season will proceed and that draft study plans will be provided for review.	All Licensing Contacts	2010-04-23StudyProgramNotice.pdf
5/3/2010	Jenna Borovansky (LVA) emailed Kim Nguyen and Mark Ivy (FERC) a list of agency representatives' availability for the first week in June for a scoping meeting.	FERC	2010-05-03NguyenIvyFERC.pdf
5/3/2010	Kenai Hydro, LLC filed a revised project description and PAD study issues with FERC.	FERC	2010-05-03RevisedProjectDescription.pdf
5/4/2010	Jenna Borovansky (LVA) emailed all licensing contacts notification that draft study plans for the Aquatic and Water Resources were posted on the Kenai Hydro website and that a review Project description was filed with FERC on May 3, 2010.	All Licensing Contacts	2010-05-04AquaticsWaterStudyPlanNotice.pdf
5/4/2010	Brad Zubeck (KHL) had a phone conversation with Mark Ivy (FERC) regarding scoping meeting logistics, and future Project permitting needs.	FERC	2010-05-04IvyFERC.pdf
5/4/2010	John Wolfe (HDR) exchanged emails with Jamie Schmidt (USFS) regarding the USFS easements on ANDR land for the Iditarod trail and information on proposed road alignments to follow-up on a phone conversation regarding the Iditarod Trail location relative to proposed road access to the Grant Lake Project.	USFS	2010-05-04SchmidtUSFS.pdf
5/5/2010	Mary Ann Benoit (USFS-Seward Ranger District) called Sirena Brownlee (HDR) to provide information on bear den surveys and raptor surveys to be conducted in the Project area.	USFS	2010-05-05BenoitUSFS.pdf
5/11/2010	Thomas Harkreader emailed Jenna Borovansky (LVA) information regarding ongoing mining activities in the Grant Lake area.	Citizen	2010-05-11Harkreader.pdf
5/11/2010	Jenna Borovansky (LVA) emailed all licensing contacts notification of the FERC scoping meetings and that draft study plans for the Recreation and Visual, Terrestrial, and Cultural Resources were posted on the Kenai Hydro website.	All Licensing Contacts	2010-05-11RecreationTerrestrialCulturalStudyPlanNotice.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
5/17/2010	David Pearson emailed Kenai Hydro comments on the Recreation and Visual Resources draft study plan.	Citizen	2010-05-17PearsonRecreationComments.pdf
5/18/2010	Brad Zubeck (KHL) exchanged emails with Valerie Connor (ACE) regarding questions on the schedule for the Grant Lake Project.	USACE	2010-05-18ConnorACE.pdf
5/18/2010	Jack Dean emailed Jenna Borovansky (LVA) regarding assistance with access to the study plans.	Citizen	2010-05-18Dean.pdf
5/20/2010	Jenna Borovansky (LVA) emailed Instream Flow TWG members notice of a June 22, 2010 meeting to discuss the instream flow study.	ADFG; ADNR; FERC; USFWS; USFS; Kenai River Sportsfishing; CIAA	2010-05-20TWGmtgNotice.pdf
5/21/2010	Brad Zubeck (KHL) exchanged emails with Doug Palmer (USFWS), Jason Mouw (ADFG), Karen O'Leary (USFS) and other agency representatives regarding a request for an extended comment deadline on the draft study plans.	ADFG; NMFS; FOCL; FERC; USFWS; USFS; USACE; ADNR	2010-05-21AgencyStudyPlanCommentDeadline.pdf
5/21/2010	Jenna Borovansky (LVA) emailed all licensing contacts notice of a study plan discussion session and reminder of upcoming FERC scoping meetings.	All Licensing Contacts	2010-05-21StudyPlanMeetingNotice.pdf
5/23/2010	Kate Glaser and Jenna Borovansky (LVA) exchanged emails regarding the FERC environmental site visit.	Citizen	2010-05-23Glaser.pdf
5/24/2010	Jeff Estes (City of Seward) emailed Kenai Hydro, LLC comments on the proposed road alignment.	City of Seward	2010-05-24EstesSeward.pdf
5/25/2010	Mary Ann Benoit (USFS) emailed Sirena Brownlee (HDR) regarding the Terrestrial Resources draft study plan and frequency of bird surveys in the Project area.	USFS	2010-05-25BenoitUSFS.pdf
5/25/2010	Jenna Borovansky (LVA) emailed details regarding the FERC environmental site review on June 2, 2010.	ADFG; FERC; USFS; USACE; NOAA; Citizen; ADNR	2010-05-25SiteVisitDetails.pdf
5/26/2010	Jenna Borovansky (LVA) emailed agency representatives regarding an extension of the draft study plan comment deadline.	ADFG; FERC; USFWS; USFS; USACE; EPA; ADNR	2010-05-26AgencyStudyPlanCommentExtension.pdf
5/26/2010	James Hasbrouck (ADFG) emailed James Brady (HDR) information on fish stocking in Vagt Lake.	ADFG	2010-05-26HasbrouckADFG.pdf
5/26/2010	Brad Zubeck (KHL) exchanged emails with Eric Rothwell (NOAA) regarding arranging a time for Eric to accompany field crews in the Project area.	NOAA	2010-05-26RothwellNOAA.pdf
5/26/2010	Brad Zubeck (KHL) sent a letter to Judith Bittner (SHPO) and consulting parties to initiate Section 106 consultation and propose a meeting to review the proposed Cultural Resources APE.	See Summary of Contact	2010-05-26Section106ConsultInitiation.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
5/26/2010	Jenna Borovansky (LVA) exchanged emails with Mark Ivy (FERC) to clarify the study plan comment schedule.	FERC	2010-05-26IvyFERC.pdf
5/29/2010	Jenna Borovansky (LVA) and Thomas Harkreader exchanged emails regarding the mine near Grant Lake.	Citizen	2010-05-29Harkreader.pdf
6/8/2010	Jenna Borovansky (LVA) emailed Mark Luttrell (RBCA) information regarding the cultural resources study.	Resurrection Bay Conservation Alliance	2010-06-08LuttrellRBCA.pdf
7/30/2010	Jennifer Hill (FERC) issued a letter to Brad Zubeck (KHL) requesting that KHL meet with USFS within 120 days to discuss the Grant Lake Project proposed location and configuration.	FERC	2010-07-30FERCjHill.pdf
8/10/2010	Jenna Borovansky and Steve Padula (LVA) held a conference call with the USFS regarding land management objectives.	USFS	2010-08-10GrantLakeUSFSConfCallSummary.pdf
8/31/2010	Kenai Hydro, LLC filed a revised project description with FERC.	FERC	2010-08-13RevisedProjectDescription.pdf
9/30/2010	Mike Salzetti (KHL) filed with FERC the fourth preliminary permit progress report.	FERC	2010-09-30ProgressReport4th.pdf
10/12/2010	Mike Salzetti (KHL) filed with FERC notes from the August 10, 2010 meeting with the USFS.	USFS	2010-10-12USFSmtgNotes.pdf
3/21/2011	Tim Welch (FERC) issued a letter to Brad Zubeck (KHL) requesting a status of the preliminary permit for Falls Creek.	FERC	2011-03-21FallsCrPPstatusRequest.pdf
3/31/2011	Mike Salzetti (KHL) filed with FERC the fifth preliminary permit progress report.	FERC	2011-03-31ProgressReport5th.pdf
9/30/2011	Mike Salzetti (KHL) filed with FERC the sixth preliminary permit progress report.	FERC	2011-09-30ProgressReport6th.pdf
9/30/2011	Mike Salzetti (KHL) filed with FERC an application for a second preliminary permit for the Grant Lake Project.	FERC	2011-09-30PP2ndAppl.pdf
12/29/2011	Ken Hogan (FERC) issued a letter to Mike Salzetti (KHL) notifying KHL of acceptance of the application for a second preliminary permit.	FERC	2011-12-29PP2ndApplAccept.pdf
8/28/2012	Mike Salzetti (KHL) filed with FERC the first preliminary permit progress report.	FERC	2012-08-28ProgressReport1st.pdf
10/31/2012	Cory Warnock (LVA) emailed licensing participants with a meeting proposal to gauge appropriate dates for re-initiation of stakeholders into the licensing process.	All Licensing Contacts	2012-10-31ProcessReinitiation.pdf
10/31/2012	Cory Warnock (LVA) exchanged emails with Monte Miller (ADFG) regarding the potential location and timing of the Natural Resources Studies Meeting.	ADFG	2012-10-31ADFGmMiller.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
10/31/2012	Cory Warnock (LVA) exchanged emails with Cassie Thomas (NPS) regarding potential locations for the Natural Resources Studies Meeting.	NPS	2012-10-31NPSCThomas.pdf
11/1/2012	Cory Warnock (LVA) exchanged emails with Michael Walton (ADNR) regarding potential locations for the Natural Resources Studies Meeting.	ADNR	2012-11-01ADNRmWalton.pdf
11/1/2012	Cory Warnock (LVA) exchanged emails with Robin Swinford (ADNR) regarding potential dates for the Natural Resources Studies Meeting.	ADNR	2012-11-01ADNRrSwinford.pdf
11/1/2012	Cory Warnock (LVA) exchanged emails with Sue Walker (NOAA Fisheries) regarding potential locations for the Natural Resources Studies Meeting.	NOAA	2012-11-01NOAAsWalker.pdf
11/5/2012	Lynnda Kahn (USFWS) emailed Cory Warnock (LVA) regarding her unavailability to participate in a Natural Resources Studies Meeting between December 6 through January 7.	USFWS	2012-11-05USFWSIKahn.pdf
11/9/2012	Cory Warnock (LVA) notified licensing participants by email that a meeting to discuss the 2013 study program would be held on December 12, 2012 in Anchorage, Alaska.	All Licensing Contacts	2012-11-09StudiesMtgNotice.pdf
11/9/2012	Cory Warnock (LVA) exchanged emails with Monte Miller (ADFG) regarding logistics and attendees associated with the December 12, 2012 Natural Resources Studies Meeting.	ADFG	2012-11-09ADFGmMiller.pdf
11/9/2012	Amal Ajmi (Oasis ERM) emailed Mary Ann Benoit (USFS) regarding a proposed schedule for the wildlife studies.	USFS	2012-11-09USFSmBenoit.pdf
11/9/2012	Cory Warnock (LVA) emailed Ginny Litchfield (ADFG) regarding addition of name to contact list for the Grant Lake Project licensing process.	ADFG	2012-11-09ADFGgLitchfield.pdf
11/9/2012	Cory Warnock (LVA) exchanged emails with Brent Goodrum (ADNR) regarding adding relevant ADNR staff to contact list for the Grant Lake Project licensing process.	ADNR	2012-11-09ADNRbGoodrum.pdf
11/13/2012	Amal Ajmi (Oasis ERM) exchanged emails with Mary Ann Benoit (USFS) regarding the potential existence of ALMS survey plots.	USFS	2012-11-13USFSmBenoit.pdf
11/14/2012	Cory Warnock (LVA) emailed Valerie Conner (Alaska Center for Environment), Mike Cooney (Friends of Cooper Landing), Ricky Gease (KRSFA), and Jan Konigsberg (HRC) regarding the December 12, 2012 Natural Resources Studies Meeting.	Kenai River Sportsfishing; Friends of Cooper Landing; Alaska Center for Environment; Hydro Reform Coalition	2012-11-14StudiesMtgNotice2.pdf
11/14/2012	Cory Warnock (LVA) emailed Ken Hogan (FERC) requesting a call to discuss the re-initiation of the licensing process for the Grant Lake Project.	FERC	2012-11-14FERCkHogan.pdf
11/14/2012	Cory Warnock (LVA) and Ken Hogan (FERC) discussed by phone the re-initiation of the licensing process for the Grant Lake Project.	FERC	2012-11-14FERCkHogan2.pdf

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11/16/2012	Cory Warnock (LVA) emailed Doug Ott (AEA) regarding adding him to the contact list for the Grant Lake Project licensing process.	AEA	2012-11-16AEAdOtt.pdf
11/19/2012	Cory Warnock (LVA) exchanged emails with Lynnda Kahn (USFWS) regarding general approach for scheduling of future stakeholder meetings.	USFWS	2012-11-19USFWSIKahn.pdf
11/26/2012	Cory Warnock (LVA) emailed licensing participants the agenda for the December 12, 2012 Natural Resources Studies Meeting.	All Licensing Contacts	2012-11-26StudiesMtgAgenda.pdf
11/27/2012	Cory Warnock (LVA) exchanged emails with Kevin Laves (USFS) regarding who the main USFS contact is for the Grant Lake Project.	USFS	2012-11-27USFSkLaves4.pdf
11/27/2012	Dwayne Adams (USKH) and Cliff Larson (ADNR) discussed by phone potential permit requirements for the visual and recreational survey work planned for 2013.	ADNR	2012-11-27ADNRcLarson.pdf
11/27/2012	Amal Ajmi (Oasis ERM) and Kevin Laves (USFS) discussed by phone special use permit needs and USFS staff involved on the Grant Lake Project.	USFS	2012-11-27USFSkLaves2.pdf
11/27/2012	Amal Ajmi (Oasis ERM) exchanged emails with Kevin Laves (USFS) regarding permit needs for the Grant Lake Project wildlife studies.	USFS	2012-11-27USFSkLaves3.pdf
11/27/2012	Amal Ajmi (Oasis ERM) exchanged emails with Kevin Laves (USFS) regarding the USFS representatives for the Grant Lake Project.	USFS	2012-11-27USFSkLaves.pdf
11/28/2012	Amal Ajmi (Oasis ERM) exchanged emails with Thomas McDonough (ADFG) regarding permit needs for the Grant Lake Project wildlife studies.	ADFG	2012-11-28ADFGtMcDonough.pdf
11/29/2012	Cory Warnock (LVA) exchanged emails with Kevin Laves (USFS) regarding the identification of the main USFS representative for the Grant Lake Project.	USFS	2012-11-29USFSkLaves.pdf
11/29/2012	Cory Warnock (LVA) and Robert Stovall (USFS) discussed by phone the agenda for the December 12, 2012 Natural Resources Studies Meeting and the general plan for the 2013 study season.	USFS	2012-11-29USFSrStovall.pdf
11/30/2012	Cory Warnock (LVA) exchanged emails with Katherine McCafferty (ACOE) regarding who the main ACOE representative is for the Grant Lake Project.	USACE	2012-11-30ACOEkMccafferty.pdf
12/3/2012	Cory Warnock (LVA) emailed licensing participants requesting a response regarding participation in the December 12, 2012 Natural Resources Studies Meeting.	All Licensing Contacts	2012-12-03StudiesMtgAttendeeRequest.pdf
12/3/2012	Cory Warnock (LVA) exchanged emails with Pamela Russell (ADNR) regarding the identification of the main ADNR representative for the Grant Lake Project.	ADNR	2012-12-03ADNRpRussell.pdf

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12/3/2012	Kevin Laves (USFS) emailed Cory Warnock (LVA) that he will not be attending the December 12, 2012 Natural Resources Studies Meeting.	USFS	2012-12-03USFSkLaves.pdf
12/3/2012	Cory Warnock (LVA) exchanged emails with Sue Walker (NOAA Fisheries) regarding general approach for scheduling of future stakeholder meetings.	NOAA	2012-12-03NOAAsWalker.pdf
12/3/2012	Amal Ajmi (Oasis ERM) exchanged emails with Clifford Larson (ADNR) regarding permit needs for the Grant Lake Project wildlife studies.	ADNR	2012-12-03ADNRcLarson.pdf
12/4/2012	Krissy Plett (ADNR) emailed Cory Warnock (LVA) regarding the addition of ADNR staff to the contact list for the Grant Lake Project.	ADNR	2012-12-04ADNRkPlett.pdf
12/7/2012	Cory Warnock (LVA) exchanged emails with Barbara Stanley (USFS) regarding her participation at the December 12, 2012 Natural Resources Studies Meeting and the availability of meeting materials on the Kenai Hydro website.	USFS	2012-12-07USFSbStanley.pdf
12/12/2012	HEA held a meeting on December 12, 2012 to discuss the Grant Lake Project Natural Resources Study Plans.	All Licensing Contacts	2012-12-12StudiesMtg.pdf
12/13/2012	Cory Warnock (LVA) emailed Ken Hogan (FERC) thanking him for participating in the December 12, 2012 Natural Resources Studies Meeting.	FERC	2012-12-13FERCkHogan.pdf
12/13/2012	Cory Warnock (LVA) emailed Eric Rothwell (NOAA Fisheries) contact information for Paul Pittman (Element Solutions), the lead on the geomorphology tasks associated with the Water Resources Study Plan.	NOAA	2012-12-13NOAAeRothwell.pdf
12/17/2012	Cory Warnock (LVA) exchanged emails with Eric Rothwell (NOAA Fisheries) regarding comments on the the geomorphology tasks associated with the Water Resources Study Plan and the anticipated deadline for comments on the meeting summary and study plans.	NOAA	2012-12-17NOAAeRothwell.pdf
12/28/2012	Paul Pittman (Element Solutions) emailed Eric Rothwell (NOAA Fisheries) regarding questions related to the the geomorphology tasks associated with the Water Resources Study Plan.	NOAA	2012-12-28NOAAeRothwell.pdf
1/3/2013	John Blum (McMillen) emailed Eric Rothwell (NOAA Fisheries) a copy of the K. Thompson paper regarding determining instream flows for fish (1972).	NOAA	2013-01-03NOAAeRothwell.pdf
1/3/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding scheduling a call to discuss the existing USFS' Special Use Permit for the Grant Lake Project.	USFS	2013-01-03USFSkVanMassenhove.pdf
1/7/2013	Cory Warnock (McMillen) and Eric Rothwell (NOAA Fisheries) discussed by phone the geomorphology tasks associated with the Water Resources Study Plan.	NOAA	2013-01-07NOAAeRothwell.pdf

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1/7/2013	Cory Warnock (LVA) emailed licensing participants the draft summary from the December 12, 2012 Natural Resources Studies Meeting and indicated a deadline of February 1, 2013 to provide comments on the draft summary, study plans, and permit table.	All Licensing Contacts	2013-01-07StudiesMtgDraftSummary.pdf
1/7/2013	Cory Warnock (McMillen) exchanged emails with Deidre StLouis (USFS) confirming a call for January 9, 2013 to discuss the existing USFS' Special Use Permit for the Grant Lake Project.	USFS	2013-01-07USFSdStLouis.pdf
1/9/2013	Cory Warnock (McMillen), Deidre StLouis (USFS) and Katherine VanMassenhove (USFS) discussed by phone the use of an existing Special Use Permit for Grant Lake Project 2013 study season.	USFS	2013-01-09USFSdStLouisKVanMassenhove.pdf
1/11/2013	Cory Warnock (McMillen) emailed Scott Ayers (ADFG) requesting a time to discuss the multi-agency permitting process as it relates to the Grant Lake Project.	ADFG	2013-01-11ADFGsAyers.pdf
1/11/2013	Cory Warnock (McMillen) exchanged emails with Monte Miller (ADFG) regarding the current ADFG contact for permitting.	ADFG	2013-01-11ADFGmMiller.pdf
1/14/2013	Amal Ajmi (ERM) emailed Jeff Selinger (ADFG) with an introduction to the planned 2013 Grant Lake terrestrial studies work.	ADFG	2013-01-14ADFGjSelinger.pdf
1/16/2013	Dwayne Adams (USKH) and Robert Stovall (USFS) discussed by phone the permit needs for the Grant Lake Project recreation studies.	USFS	2013-01-16USFSrStovall.pdf
1/18/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) following up to the January 9, 2013 phone call re: the use of the existing Special Use Permit for the Grant Lake Project 2013 study season.	USFS	2013-01-18USFSkVanMassenhove.pdf
1/22/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) with the permit needs table and a study methodologies summary related to the discussion about the use of the existing USFS' Special Use Permit for the Grant Lake Project.	ADFG	2013-01-22USFSkVanMassenhove.pdf
1/23/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding the use of the existing USFS' Special Use Permit for the Grant Lake Project 2013 study program.	USFS	2013-01-23USFSkVanMassenhove.pdf
1/25/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding the use of the existing USFS' Special Use Permit for the Grant Lake Project 2013 study program.	USFS	2013-01-25USFSkVanMassenhove.pdf
1/25/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) with modifications to list of primary activities planned on USFS lands (related to the ongoing discussion about the use of existing USFS' SUP for the 2013 study program).	USFS	2013-01-25USFSkVanMassenhove2.pdf

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1/28/2013	Cory Warnock (McMillen) exchanged emails with Lynnda Kahn (USFWS) regarding McMillen's offer for follow up call to discuss December 12 meeting, and USFWS' target date to submit its study plan comments.	USFWS	2013-01-28USFSIKahn.pdf
1/29/2013	Amal Ajmi (ERM) emailed Jeff Selinger (ADFG) regarding logistics of conducting aerial surveys of moose.	ADFG	2013-01-29ADFGjSelinger.pdf
2/1/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding the Special Use Permit amendment to allow access by helicopter and snow machine.	USFS	2013-02-01USFSkVanMassenhove.pdf
2/4/2013	Cory Warnock (McMillen) exchanged emails with Cassie Thomas (NPS) regarding the NPS comments on the December 12, 2012 meeting note and the Recreation/Visual Resources Study Plan.	NPS	2013-02-04NPScThomas.pdf
2/6/2013	Mike Salzetti (HEA) emailed Katherine VanMassenhove (USFS) the Special Use Permit amendment to allow access by helicopter and snow machine signed by HEA.	USFS	2013-02-06USFSkVanMassenhove.pdf
2/10/2013	Cory Warnock (McMillen) emailed Katherine VanMassenhove (USFS) regarding the fully executed Special Use Permit amendment to allow access by helicopter and snow machine (signed amendment attached).	USFS	2013-02-10USFSkVanMassenhove.pdf
2/11/2013	Cory Warnock (LVA) emailed Pamela Russell (ADNR) a map of the data collection locations with respect to the Multi-Agency Permit Application for the Grant Lake 2013 studies program.	ADNR	2013-02-11ADNRpRussell.pdf
2/11/2013	Eric Rothwell (NOAA Fisheries) emailed Cory Warnock (McMillen) comments on the Aquatics Resources and Water Resources final study plans.	NOAA	2013-02-11NOAAeRothwell.pdf
2/12/2013	Mike Salzetti (HEA) emailed Patti Berkhahn (ADFG) responses to follow up questions related to the Multi-Agency Permit Application.	ADFG	2013-02-12ADFGpBerkhahn.pdf
2/12/2013	Patti Berkhahn (ADFG) emailed Mike Salzetti (HEA) the Fish Habitat Permit.	ADFG	2013-02-12ADFGpBerkhahn2.pdf
2/13/2013	Scott Ayers (ADFG) emailed Cory Warnock (McMillen) regarding the need for HEA to apply for a Fish Resources Permit for the Grant Lake 2013 study program (permit application attached).	ADFG	2013-02-13ADFGsAyers.pdf
2/13/2013	Mike Yarborough (CRC Consultants) emailed Cultural Resources Work Group (CRWG) members regarding scheduling a meeting to discuss the Area of Potential Effect (APE).	CRWG	2013-02-13CRWGmtgDateRequest.pdf
2/13/2013	Frank Winchell (FERC) emailed Mike Yarborough (CRC Consultants) regarding his availability for a call to discuss the APE.	FERC	2013-02-13FERCfWinchell.pdf

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2/13/2013	Shina Duvall (SHPO) emailed Mike Yarborough (CRC Consultants) regarding her availability for a call to discuss the APE.	SHPO	2013-02-13SHPOsDuvall.pdf
2/20/2013	Mike Salzetti (HEA) emailed Scott Ayers (ADFG) the completed Fish Resources Permit application.	ADFG	2013-02-20ADFGsAyers.pdf
2/21/2013	Cory Warnock (McMillen) emailed Scott Ayers (ADFG) the link to the Multi-Agency Permit Application.	ADFG	2013-02-21ADFGsAyers.pdf
2/21/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) regarding the receipt of and approximate timeframe for processing the Fish Resources Permit application.	ADFG	2013-02-21ADFGsAyers2.pdf
2/22/2013	Cory Warnock (McMillen) exchanged emails with Monte Miller and Shawn Johnson (ADFG) regarding the potential for ADFG to assist with fish DNA sampling.	ADFG	2013-02-22ADFGmMiller.pdf
2/26/2013	Mike Salzetti (HEA) emailed Claire Leclair (ADNR) requesting a status on the processing of the Multi-Agency Permit Application.	ADNR	2013-02-26ADNRcLeclair.pdf
2/26/2013	Mike Yarborough (CRC Consultants) emailed CRWG members a second time regarding scheduling a meeting to discuss the APE.	CRWG	2013-02-26CRWGmtgDateRequest.pdf
2/26/2013	Frank Winchell (FERC) emailed Mike Yarborough (CRC Consultants) regarding his availability for a call to discuss the APE.	FERC	2013-02-26FERCfWinchell.pdf
2/27/2013	Levia Shoutis (ERM) exchanged emails with Rob Develice (USFS) regarding vegetation cover type maps.	USFS	2013-02-27USFSrDevelice.pdf
2/27/2013	Katy Beck (Beck Botanical) and Betty Charnon (USFS) discussed via phone sensitive plants and invasive weeds in the vicinity of the proposed Grant Creek Project.	USFS	2013-02-27USFSbCharnon.pdf
2/27/2013	Ed DeCleva (USFS) emailed Mike Yarborough (CRC Consultants) regarding his availability for a call to discuss the APE.	USFS	2013-02-27USFSedeCleva.pdf
2/27/2013	Mike Salzetti (HEA) filed with FERC the second preliminary permit progress report.	FERC	2013-02-27ProgressReport2nd.pdf
3/4/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) regarding the status on the processing of the Multi-Agency Permit Application.	ADNR	2013-03-04ADNRcLeclair.pdf
3/5/2013	Cory Warnock (McMillen) and Claire Leclair (ADNR) discussed via phone clarifying questions ADNR had regarding the Multi-Agency Permit Application.	ADNR	2013-03-05ADNRcLeclair.pdf
3/7/2013	Cory Warnock (McMillen) exchanged emails with Monte Miller (ADFG) regarding the contact information for the ADFG representative to discuss the potential for ADFG assisting with fish DNA sampling.	ADFG	2013-03-07ADFGmMiller.pdf

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3/7/2013	Cory Warnock (McMillen) and Bill Templin (ADFG) discussed via phone HEA using ADFG genetic sampling supplies and the potential for ADFG's lab to conduct genetic analysis of anadromous fish samples.	ADFG	2013-03-07ADFGbTemplin.pdf
3/7/2013	Ed DeCleva (USFS) emailed Mike Yarborough (CRC Consultants) checking in on the status of scheduling a call to discuss the APE.	USFS	2013-03-07USFSeDeCleva.pdf
3/8/2013	Cory Warnock (McMillen) emailed Bill Templin (ADFG) the Aquatic Resources Study Plan with regard to an ongoing discussion about ADFG assisting HEA with fish DNA sampling.	ADFG	2013-03-08ADFGbTemplin.pdf
3/8/2013	Mike Yarborough (CRC Consultants) emailed Ed DecLeva (USFS) with a status on the scheduling of a call to discuss the APE.	USFS	2013-03-08USFSeDeCleva.pdf
3/11/2013	Cory Warnock (McMillen) exchanged emails with Kathy VanMassenhove (USFS) regarding clarifying questions about coverage of digging as part of the 2013 Grant Lake study efforts under the Special Use Permit amendment.	USFS	2013-03-11USFSkVanMassenhove.pdf
3/12/2013	Cory Warnock (McMillen) and Scott Ayers (ADFG) exchanged emails regarding ADFG follow up questions regarding the Fish Resources Permit application.	ADFG	2013-03-12ADFGsAyers.pdf
3/13/2013	Cory Warnock (McMillen) and Andy Barclay (ADFG) exchanged emails regarding scheduling a call to discuss fish DNA sampling.	ADFG	2013-03-13ADFGaBarclay.pdf
3/13/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) regarding responses to ADFG follow up questions related to the Fish Resources Permit application.	ADFG	2013-03-13ADFGsAyers.pdf
3/13/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) regarding the status on the processing of the Multi-Agency Permit Application, specifically as it relates to ground-disturbing activity.	ADNR	2013-03-18ADNRcLeclair.pdf
3/14/2013	Cory Warnock (McMillen) and Andy Barclay (ADFG) discussed via phone fish DNA sampling.	ADFG	2013-03-14ADFGaBarclay.pdf
3/18/2013	Scott Ayers (ADFG) emailed Mike Salzetti (HEA) about issuance of the Fish Resource Permit for the Grant Lake studies program.	ADFG	2013-03-18ADFGsAyers.pdf
3/19/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) regarding HEA questions related to the Fish Resource Permit.	ADFG	2013-03-19ADFGsAyers.pdf
3/19/2013	Cory Warnock (McMillen) and Ken Hogan (FERC) discussed via phone the status of the licensing process and filing of the final study plans.	FERC	2013-03-19FERCkHogan.pdf
3/20/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) regarding a request to amend the Fish Resource Permit.	ADFG	2013-03-20ADFGsAyers.pdf

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3/20/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) regarding confirmation that the pending ADNR permit is not needed to conduct the fish survey work by foot along Grant Creek.	ADNR	2013-03-20ADNRcLeclair.pdf
3/20/2013	Cory Warnock (LVA) emailed licensing participants the December 12, 2012 Natural Resources Studies Meeting summary, the Final Study Plans comment/response table, and notification of the availability of revised Final Study Plans on the Project website.	All Licensing Contacts	2013-03-20FinalStudyPlans.pdf
3/20/2013	Cory Warnock (McMillen) exchanged emails with Eric Volk (ADFG) regarding scheduling a call to discuss scale sampling.	ADFG	2013-03-20ADFGcVolk.pdf
3/21/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding the potential need to amend the existing Special Use Permit for ground disturbing activities related to the 2013 Grant Lake study program.	USFS	2013-03-21USFSkVanMassenhove.pdf
3/25/2013	Cory Warnock (McMillen) emailed Andy Barclay (ADFG) regarding scheduling a call to discuss fish DNA sampling.	ADFG	2013-03-25ADFGaBarclay.pdf
3/25/2013	Mike Salzetti (HEA) filed with FERC the Final Study Plans, comment/response tables related to comments on the Final Study Plans as discussed at the December 12, 2012 Natural Resources Studies Meeting, and the December 12 meeting summary.	FERC	2013-03-25FinalStudyPlans.pdf
3/25/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding scheduling a call to discuss the need to amend the existing Special Use Permit for ground disturbing activities related to the 2013 Grant Lake study program.	USFS	2013-03-25USFSkVanMassenhove.pdf
3/26/2013	Scott Ayers (ADFG) emailed Cory Warnock (McMillen) an amendment to the Fish Resource Permit.	ADFG	2013-03-26ADFGsAyers.pdf
3/27/2013	Cory Warnock (McMillen) exchanged emails with Eric Volk (ADFG) regarding scheduling a call to discuss scale sampling.	ADFG	2013-03-27ADFGcVolk.pdf
3/27/2013	Mike Salzetti (HEA), Cory Warnock (McMillen), Andy Barclay (ADFG), and Bill Templin (ADFG) discussed via phone ADFG assisting HEA with fish DNA sampling.	ADFG	2013-03-27ADFGaBarclay.pdf
3/28/2013	Cory Warnock (McMillen) and Mark Willette (ADFG) discussed via phone the potential for Mr. Willette's group to provide scale cards and subsequent analysis of Chinook scales.	ADFG	2013-03-28ADFGmWillette.pdf
3/28/2013	Cory Warnock (McMillen) and Tim McKinley (ADFG) discussed via phone the potential for scale reabsorption to be an issue with Chinook in the upper Kenai Watershed.	ADFG	2013-03-28ADFGtMcKinley.pdf

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3/28/2013	Cory Warnock (McMillen) called various ADFG staff to inform them of the start of the Grant Lake Study Program, per requirements of HEA's Fish Habitat Permit and Fish Resource Permit.	ADFG	2013-03-28ADFGstudyNotifications.pdf
3/29/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) regarding the status of the pending ADNR Special Park Use permit.	ADNR	2013-03-29ADNRcLeclair.pdf
3/29/2013	Mike Salzetti (HEA), Cory Warnock (McMillen), and Katherine VanMassenhove (USFS) discussed via phone the pending amendment to the existing Special Use Permit to allow for wetlands core sampling.	USFS	2013-03-29USFSkVanMassenhove.pdf
4/1/2013	Cory Warnock (McMillen) emailed Pam Russell (ADNR) regarding whether there are any permits needed by the State to allow for wetlands core sampling.	ADNR	2013-04-01ADNRpRussell.pdf
4/1/2013	Mike Salzetti (HEA) and Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding fees associated with the amendment to the existing Special Use Permit for ground disturbing activities.	USFS	2013-04-01USFSkVanMassenhove.pdf
4/1/2013	Cory Warnock (McMillen) emailed Clair Leclair (ADNR) requested information regarding the planned wetlands core sampling.	ADNR	2013-04-01ADNRcLeclair.pdf
4/2/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) regarding the status of the pending ADNR Special Park Use permit.	ADNR	2013-04-02ADNRcLeclair.pdf
4/2/2013	Sarah Meitl (CRC Consultants) emailed Dara Glass (CIRI), Sherry Nelson (USFS), Shina DuVall (SHPO), and Frank Winchell (FERC) an agenda for the April 3, 2013 call to discuss the APE.	FERC; USFS; SHPO; Cook Inlet Region	2013-04-02APEdiscussionAgenda.pdf
4/2/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) regarding the stipulation in the issued ADNR Special Park Use permit regarding vegetation clearing.	ADNR	2013-04-02ADNRcLeclair2.pdf
4/3/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) regarding the stipulation in the issued ADNR Special Park Use permit associated with hauling out human waste.	ADNR	2013-04-02ADNRcLeclair3.pdf
4/3/2013	HEA held a CRWG conference call to discuss the Area of Potential Effect (APE).	CRWG	2013-04-03CRWGmtg.pdf
4/4/2013	Cory Warnock (McMillen) exchanged emails with Jack Blackwell and Claire Leclair (ADNR) regarding scheduling of a site visit at the Grant Creek man camp.	ADNR	2013-04-04ADNRjBlackwell.pdf
4/4/2013	Cory Warnock (McMillen) emailed Claire Leclair (ADNR) the signed stream gauge Special Park Use Permit.	ADNR	2013-04-04ADNRcLeclair.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
4/5/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) regarding an error with the permit number identified in the ground disturbing Special Park Use permit.	ADNR	2013-04-05ADNRcLeclair.pdf
4/5/2013	Claire Leclair (ADNR) emailed Cory Warnock (McMillen) links to information related to regarding management of human waste in remote camps.	ADNR	2013-04-05ADNRcLeclair2.pdf
4/5/2013	Cory Warnock (McMillen) exchanged emails with Katherine McCafferty (USACE) regarding scheduling a call to discuss the planned wetlands core sampling.	USACE	2013-04-05USACEkMcCafferty.pdf
4/15/2013	Cory Warnock (McMillen) exchanged emails with Candice Snow (ADNR) regarding schedule a call to discuss the potential need for a ANDR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-04-15ADNRcSnow.pdf
4/16/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding the amendment to the existing Special Use Permit for ground disturbing activities.	USFS	2013-04-16USFSkVanMassenhove.pdf
4/16/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) requesting clarification regarding the proposed technique for marking fish relative to the provisions of the Fish Resource Permit.	ADFG	2013-04-16ADFGsAyers.pdf
4/16/2013	Candice Snow (ADNR) emailed Charles Sauvageau (McMillen) the application for ANDR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-04-16ADNRcSnow.pdf
4/16/2013	Cory Warnock, Charles Sauvageau (McMillen), and Candice Snow (ADNR) discussed by phone the need for an ANDR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-04-16ADNRcSnow2.pdf
4/16/2013	Cory Warnock (McMillen), Levia Shoutis and Jeanette Blank (ERM), and Katherine McCafferty (USACE) discussed by phone the planned wetlands core sampling.	USACE	2013-04-16USACEkMcCafferty.pdf
4/17/2013	Cory Warnock (McMillen) exchanged emails with Candice Snow (ADNR) regarding completion of application for ANDR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-04-17ADNRcSnow.pdf
4/17/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) regarding scheduling a call to discuss potential techniques for marking fish relative to the provisions of the Fish Resource Permit.	ADFG	2013-04-17ADFGsAyers.pdf
4/17/2013	Sarah Meitl (CRC Consultants) exchanged emails with Sherry Nelson and Katherine VanMassenhove (USFS) regarding requested information related to the cultural resources survey provided by CRC Consultants to the USFS.	USFS	2013-04-17USFSsNelson.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
4/17/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) confirming a call for April 18 to discuss potential techniques for marking fish relative to the provisions of the Fish Resource Permit.	ADFG	2013-04-17ADFGsAyers2.pdf
4/18/2013	Cory Warnock (McMillen) emailed Candice Snow (ADNR) the completed and signed application for an ADNR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-04-18ADNRcSnow.pdf
4/18/2013	Cory Warnock (McMillen), John Stevenson and Mark Miller (BioAnalysts), and Scott Ayers (ADFG) discussed by phone potential techniques for marking fish relative to the provisions of the Fish Resource Permit.	ADFG	2013-04-18ADFGsAyers.pdf
4/19/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) with follow up questions to the April 18 call to discuss potential techniques for marking fish relative to the provisions of the Fish Resource Permit.	ADFG	2013-04-19ADFGsAyers.pdf
4/19/2013	Cory Warnock (McMillen) exchanged emails with Jack Blackwell (ADNR) following up to ADNR's April 15 site visit to the Grant Creek man camp and agreement to amend the ground disturbing permit.	ADNR	2013-04-19ADNRjBlackwell.pdf
4/19/2013	Mike Salzetti (HEA) mailed a letter to Judith Bittner (SHPO) regarding the proposed APE.	SHPO	2013-04-19SHPOjBittner.pdf
4/22/2013	Mike Salzetti (HEA) filed with FERC the April 3 CRWG conference call meeting summary.	FERC	2013-04-22CRWGmtgNotes.pdf
4/23/2013	Cory Warnock (McMillen) discussed with Scott Ayers (ADFG) by phone the potential use of staining baths versus VIE tags.	ADFG	2013-04-23ADFGsAyers.pdf
4/24/2013	Claire Leclair emailed Cory Warnock (McMillen) a revised ground disturbing Special Park Use permit with the correct permit number.	ADNR	2013-04-24ADNRcLeclair.pdf
4/24/2013	Cory Warnock (McMillen) emailed with Sherry Nelson (USFS) requesting a status update on the proposed approach for the amendment to the existing Special Use Permit for ground disturbing activities.	USFS	2013-04-24USFSsNelson.pdf
4/25/2013	Scott Ayers (ADFG) emailed Mike Salzetti (HEA) an amendment to the Fish Resource Permit.	ADFG	2013-04-25ADFGsAyers.pdf
4/25/2013	Cory Warnock (McMillen) and Sherry Nelson (USFS) discussed by phone the USFS' preferred approach for the amendment to the existing Special Use Permit for ground disturbing activities.	USFS	2013-04-25USFSsNelson.pdf
4/29/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) requesting a status on issuance of the amendment to the ground disturbing Special Park Use permit.	ADNR	2013-04-29ADNRcLeclair.pdf
4/29/2013	Scott Ayers (ADFG) emailed Mike Salzetti (HEA) a revised amendment to the Fish Resource Permit.	ADFG	2013-04-29ADFGsAyers.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
4/29/2013	Cory Warnock (McMillen) exchanged emails with Shina Duvall (SHPO) confirming receipt of HEA's April 19 regarding the proposed APE.	SHPO	2013-04-29SHPOsDuvall.pdf
4/30/2013	Claire Leclair (ADNR) emailed Cory Warnock (McMillen) the amendment to the ground disturbing Special Park Use permit.	ADNR	2013-04-30ADNRcLeclair.pdf
5/3/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) clarifying the proposed approach for the amendment to the existing Special Use Permit for ground disturbing activities.	USFS	2013-05-03USFSkVanMassenhove.pdf
5/7/2013	Cory Warnock (McMillen) exchanged emails with Candice Snow (ADNR) regarding the status of the application for an ADNR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-05-07ADNRcSnow.pdf
5/7/2013	Cory Warnock (McMillen) emailed Shina Duvall (SHPO) a letter from HEA confirming the proposed approach for the amendment to the existing Special Use Permit for ground disturbing activities.	SHPO	2013-05-07SHPOsDuvall.pdf
5/8/2013	Judith Bittner (SHPO) mailed a letter to Mike Salzetti (HEA) confirming the proposed APE and the proposed approach for the amendment to the existing Special Use Permit for ground disturbing activities.	SHPO	2013-05-08SHPOjBittner.pdf
5/10/2013	Jeanette Blank (ERM) emailed Katherine McCafferty (USACE) a memo summarizing the proposed wetlands functional assessment methodology.	USACE	2013-05-10USACEkMcCafferty.pdf
5/13/2013	Cory Warnock (McMillen) exchanged emails with Claire Leclair (ADNR) confirming that provisions of the ground disturbing Special Park Use permit allow for the cutting/removal of dead/downed logs for purposes of accessing the stream.	ADNR	2013-05-13ADNRcLeclair.pdf
5/14/2013	Cory Warnock (McMillen) exchanged emails with Candice Snow (ADNR) regarding the status of the application for an ADNR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-05-14ADNRcSnow.pdf
5/21/2013	Cory Warnock (McMillen) exchanged emails with Ed DeCleva, Sherry Nelson, and Katherine VanMassenhove (USFS) confirming that the SHPO has all relevant information to issue the amendment to the existing Special Use Permit for ground disturbing activities.	USFS	2013-05-21USFSeDecleva.pdf
5/23/2013	Jeanette Blank (ERM) emailed Katherine McCafferty (USACE) a second time a memo summarizing the proposed wetlands functional assessment methodology.	USACE	2013-05-23USACEkMcCafferty.pdf
5/23/2013	Emily Hutchison (HEA) emailed Candice Snow (ADNR) certificate of insurance for the ADNR permit related to the installation of thermistors in Grant Lake.	USFS	2013-05-23ADNRcSnow.pdf

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5/24/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding the status for processing the amendment to the existing Special Use Permit for ground disturbing activities.	USFS	2013-05-24USFSkVanMassenhove.pdf
5/28/2013	Sherry Nelson (USFS) emailed HEA, McMillen, and other USFS staff confirming that the SHPO has all relevant information to issue the amendment to the existing Special Use Permit for ground disturbing activities.	USFS	2013-05-28USFSsNelson.pdf
5/30/2013	Katherine VanMassenhove (USFS) emailed Cory Warnock (McMillen) the fully executed amendment to the existing Special Use Permit, specific to the cultural resources study.	USFS	2013-05-30USFSkVanMassenhove.pdf
6/5/2013	Mike Salzetti (HEA) emailed Candice Snow (ADNR) the bond for the ADNR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-06-05ADNRcSnow.pdf
6/11/2013	Monet Miller (ADFG) emailed Cory Warnock (McMillen) comments to the final study plans for the water, aquatics, and terrestrial resources.	ADFG	2013-06-11ADFGmMiller.pdf
6/12/2013	Cory Warnock (McMillen) exchanged emails with Candice Snow (ADNR) regarding the status of the issuance of an ADNR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-06-12ADNRcSnow.pdf
6/12/2013	Candice Snow (ADNR) emailed Mike Salzetti (HEA) the fully executed ADNR permit related to the installation of thermistors in Grant Lake.	ADNR	2013-06-12ADNRcSnow2.pdf
6/13/2013	Cory Warnock (McMillen) and Ken Hogan (FERC) discussed by phone a number of items pertaining to the Project.	FERC	2013-06-13FERCkHogan.pdf
6/14/2013	Cory Warnock (McMillen) exchanged emails with Tom Harkreader (White Rock Mining) regarding the current status of the Falls Creek Project at FERC.	White Rock Mining	2013-06-14FallsCrInquiry.pdf
6/14/2013	Cory Warnock (McMillen) forwarded to Tom Harkreader (White Rock Mining) an email from FERC staff related to Section 24 reserved authority for the Falls Creek Project.	White Rock Mining	2013-06-14FallsCrInquiry2.pdf
6/17/2013	Mike Salzetti (HEA) exchanged emails with Paul Torgerson (Grant Lake Mining) regarding the current status of the Grant Lake Project licensing process.	Grant Lake Mining	2013-06-17GrLkMiningPtorgerson.pdf
6/21/2013	Cory Warnock (McMillen) exchanged emails with Scott Ayers (ADFG) requesting an amendment to the Fish Resource Permit to allow for continued tagging of rainbow through the month of July.	ADFG	2013-06-21ADFGsAyers.pdf
6/21/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding the status for processing the amendment to the existing Special Use Permit for ground disturbing activities, specifically for the cultural resources work.	USFS	2013-06-21USFSkVanMassenhove.pdf

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6/24/2013	Scott Ayers (ADFG) emailed Mike Salzetti (HEA) a signed amendment to the Fish Resource Permit (4).	ADFG	2013-06-24ADFGsAyers.pdf
6/26/2013	Katy Beck (Beck Botanicals) emailed Betty Charnon (USFS) requesting completion of the pre-field sensitive plant review form.	USFS	2013-06-26USFSbCharnon.pdf
6/27/2013	Andrew Scott (McMillen) exchanged emails with Brock Tabor (ADEC) regarding relevant water quality standards.	ADEC	2013-06-27ADECbTabor.pdf
6/27/2013	Andrew Scott (McMillen) and Brock Tabor (ADEC) discussed via phone relevant water quality standards.	ADEC	2013-06-27ADECbTabor2.pdf
6/27/2013	Nancy Norvell (Alaska Natural Heritage Program) emailed Katy Beck (Beck Botanicals) GIS data regarding sensitive plant locations in the Grant Lake Project area.	Alaska Natural Heritage Program	2013-06-27AKNHPnNorvell.pdf
6/27/2013	Katy Beck (Beck Botanicals) exchanged emails with Betty Charnon (USFS) regarding sensitive and invasive plant species in the Grant Lake Project area.	USFS	2013-06-27USFSbCharnon.pdf
6/27/2013	Linda Kelly (USFS) emailed Katy Beck (Beck Botanicals) a draft map of invasive plant species occurrences in the Grant Lake Project area.	USFS	2013-06-27USFSIKelly.pdf
6/27/2013	Katy Beck (Beck Botanicals) exchanged emails with Matt Carlson (Alaska Natural Heritage Program) regarding the GIS data for sensitive plant locations in the Grant Lake Project area.	Alaska Natural Heritage Program	2013-06-27AKNHPmCarlson.pdf
7/8/2013	Katherine VanMassenhove (USFS) emailed Mike Salzetti (HEA) a fully executed amendment to the existing Special Use Permit for ground disturbing activities, specifically for the cultural resources work.	USFS	2013-07-08USFSkVanMassenhove.pdf
7/11/2013	Nancy Norvell (Alaska Natural Heritage Program) emailed Katy Beck (Beck Botanicals) a map of sensitive plant locations in the Grant Lake Project area. NOTE: Map is designated privileged.	Alaska Natural Heritage Program	2013-07-11AKNHPnNorvell.pdf
7/22/2013	Dwayne Adams (USKH) met with Lesli Schick (ADNR) to discuss the approach for the INHT relocation from its currently planned location and easement.	ADNR	2013-07-22ADNRISchick.pdf
7/26/2013	Dwayne Adams (USKH) and Katherine Van Massenhove (USFS) discussed via phone who the USFS staff person(s) is responsible for the INHT.	USFS	2013-07-26USFSkVanMassenhove.pdf
7/30/2013	Cory Warnock (McMillen) exchanged emails with Ken Gates (USFWS) regarding update on current fish capture numbers related to the Grant Lake Project aquatics studies.	USFWS	2013-07-30USFWSkGates.pdf

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8/5/2013	Cory Warnock (McMillen) exchanged emails with Ken Gates (USFWS) regarding update on current fish capture numbers related to the Grant Lake Project aquatics studies.	USFWS	2013-08-05USFWSkGates.pdf
8/7/2013	Dwayne Adams (USKH) met with Alice Rein (USFS) to discuss who the USFS staff person(s) is responsible for the INHT.	USFS	2013-08-07USFSaRein.pdf
8/8/2013	Cory Warnock (McMillen) exchanged emails with William Ashton (ADEC) regarding the requirements for a QAPP related to water quality studies.	ADEC	2013-08-08ADECwAshton.pdf
8/8/2013	Cory Warnock (McMillen) emailed licensing participants notice regarding a September 5 agency site visit.	All Licensing Contacts	2013-08-08SiteVisitNotice.pdf
8/8/2013	Cory Warnock (McMillen) emailed Ken Gates (USFWS) preliminary data collected from the weir.	USFWS	2013-08-08USFWSkGates.pdf
8/8/2013	Cory Warnock (McMillen) exchanged emails with Lynnda Kahn (USFWS) regarding who is the primary fisheries USFWS representative.	USFWS	2013-08-08USFWSlKahn.pdf
8/8/2013	Cory Warnock (McMillen) exchanged emails with Jeff Anderson (USFWS) regarding is unavailability to attend the September 5, 2013 project site visit.	USFWS	2013-08-08USFWSjAnderson.pdf
8/13/2013	Ken Gates (USFWS) emailed Cory Warnock (McMillen) regarding the preliminary data collected from the weir.	USFWS	2013-08-13USFWSkGates.pdf
8/15/2013	Cory Warnock (McMillen) emailed licensing participants additional information regarding the September 5 agency site visit.	All Licensing Contacts	2013-08-15SiteVisitNotice2.pdf
8/20/2013	Cory Warnock (McMillen) emailed Lesli Schick and Pam Russell (ADNR) regarding INHT discussions relative to the September 5 project site visit.	ADNR	2013-08-20ADNRlSchickPrussell.pdf
8/23/2013	Mike Salzetti (HEA) filed with FERC a response letter to ADFG's informal study plan comments.	FERC	2013-08-23StPlCommentResponses.pdf
8/23/2013	Amal Ajmi (ERM) emailed Jeff Selinger (ADFG) regarding planning for upcoming moose surveys.	ADFG	2013-08-23ADFGjSelinger.pdf
8/26/2013	Cory Warnock (McMillen) emailed Monte Miller (ADFG) a letter (dated August 20) with HEA responses to ADFG study plan comments.	ADFG	2013-08-26ADFGmMiller.pdf
8/27/2013	Cory Warnock (McMillen) emailed site visit participants with logistical details regarding the September 5 visit.	All Licensing Contacts	2013-08-27SiteVisitDetails.pdf
8/27/2013	Cory Warnock (McMillen) emailed licensing participants a letter with HEA responses to ADFG study plan comments.	All Licensing Contacts	2013-08-27StPlCommentResponses2.pdf
8/27/2013	Cory Warnock (McMillen) emailed licensing participants the third Project progress report as filed with FERC.	All Licensing Contacts	2013-08-27ProgressReport.pdf
8/28/2013	Amal Ajmi (ERM) and Jeff Selinger (ADFG) discussed by phone planning for upcoming moose surveys.	ADFG	2013-08-28ADFGjSelinger.pdf

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8/30/2013	Cory Warnock (McMillen) emailed site visit participants final logistical details regarding the September 5 visit.	All Licensing Contacts	2013-08-30SiteVisitDetails2.pdf
9/5/2013	HEA conducted a site visit of the Grant Lake Project.	All Licensing Contacts	2013-09-05SiteVisit.pdf
9/5/2013	Dwayne Adams (USKH) and John Eavis (USFS) discussed via phone a November INHT meeting. (Dwayne left voicemails for Eavis to discuss same further on 9/23, 9/26, and 10/21.)	USFS	2013-09-05USFSjEavis.pdf
9/9/2013	Patti Berkahn (ADFG) emailed Mike Salzetti (HEA) and John Stevenson (BioAnalysts) regarding the fuel containment structure currently located near the weir.	ADFG	2013-09-09ADFGpBerkahn.pdf
9/9/2013	Cory Warnock (McMillen) emailed licensing participants regarding the tentative plan for upcoming natural resources study report distribution and organization of work groups that will meet to discuss the study results.	All Licensing Contacts	2013-09-09WGMTgOrg.pdf
9/9/2013	Cassie Thomas (NPS) emailed Cory Warnock (McMillen) regarding work group designation.	NPS	2013-09-09NPSctThomas.pdf
9/9/2013	Cory Warnock (McMillen) exchanged emails with Monte Miller (ADFG) regarding work group designations and issues related to the fuel containment structure currently located near the weir as discussed at the September 5 project site visit.	ADFG	2013-09-09ADFGmMiller.pdf
9/9/2013	Brenda Trefon (Kenaitze Indian Tribe) emailed Cory Warnock (McMillen) regarding work group designations.	Kenaitze Indian Tribe	2013-09-09KenaitzeBtrefon.pdf
9/10/2013	Eric Rothwell (NOAA Fisheries) emailed Cory Warnock (McMillen) regarding work group designations.	NOAA	2013-09-10NOAAeRothwell.pdf
9/10/2013	David Griffin (ADNR) emailed Cory Warnock (McMillen) regarding work group designations.	ADNR	2013-09-10ADNRdGriffin.pdf
9/10/2013	Cory Warnock (McMillen) exchanged emails with Pam Russell (ADNR) regarding work group designations and issues related to the fuel containment structure currently located near the weir as discussed at the September 5 project site visit.	ADNR	2013-09-10ADNRpRussell.pdf
9/10/2013	Patti Berkahn (ADFG) emailed Cory Warnock (McMillen) regarding work group designations.	ADFG	2013-09-10ADFGpBerkahn.pdf
9/11/2013	Cory Warnock (McMillen) exchanged emails with Paul Torgerson (Grant Lake Mining) about timing of distribution of study reports.	Grant Lake Mining	2013-09-11GrLkMiningPtorgerson.pdf
9/13/2013	Jan Konigsberg (HRC) emailed Cory Warnock (McMillen) regarding work group designations.	HRC	2013-09-13HRCjKonigsberg.pdf
9/13/2013	Katy Beck (Beck Botanicals) exchanged emails with Betty Charnon (USFS) regarding guidance related to preparing a botany resource report.	USFS	2013-09-13USFSbCharnon.pdf

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9/14/2013	Mike Cooney emailed Cory Warnock (McMillen) regarding work group designations.	Citizen	2013-09-14mCooney.pdf
9/14/2013	Robert Baldwin (Kenai River Watershed Foundation) emailed Cory Warnock (McMillen) regarding work group designations.	Kenai River Watershed Foundation	2013-09-14KenaiWatershedRbaldwin.pdf
9/16/2013	Katy Beck (Beck Botanicals) exchanged emails with Rob Develice and Betty Charnon (USFS) regarding information and guidelines related to invasive plant species in Alaska.	USFS	2013-09-16USFSrDevelice.pdf
9/17/2013	Mike Salzetti (HEA) emailed Doug Ott (AEA) regarding communications with Grant Lake Mining.	AEA	2013-09-17AEAdOtt.pdf
9/17/2013	Cory Warnock (McMillen) emailed licensing participants that the fuel containment issue raised at the September 5 project site visit has been resolved.	All Licensing Contacts	2013-09-17FuelContainment.pdf
9/17/2013	Paul Torgerson (Grant Lake Mining) emailed Cory Warnock (McMillen) regarding work group designations.	Grant Lake Mining	2013-09-17GrLkMiningPtorgerson.pdf
9/18/2013	Cory Warnock (McMillen) exchanged emails with Monte Miller (ADFG) regarding communications with Paul Torgerson (Grant Lake Mining).	ADFG	2013-09-18ADFGmMiller.pdf
9/19/2013	Cory Warnock (McMillen) emailed Paul Torgerson (Grant Lake Mining) regarding his request to participate in work group meetings and a general status update of the Grant Lake Project licensing process.	Grant Lake Mining	2013-09-19GrLkMiningPtorgerson.pdf
9/23/2013	Cory Warnock (McMillen) emailed licensing participants who did not respond with the first inquiry regarding the work group he/she would like to participate in.	All Licensing Contacts	2013-09-23WGrequests.pdf
9/23/2013	Kathleen Mushovic (BLM) emailed Cory Warnock (McMillen) regarding work group designations.	BLM	2013-09-23BLMkMushovic.pdf
9/23/2013	Cory Warnock (McMillen) exchanged emails with Doug Ott (AEA) regarding work group designations.	AEA	2013-09-23AEAdOtt.pdf
9/23/2013	Dwayne Adams (USKH) exchanged emails with John Eavis (USFS) regarding scheduling of a INHT meeting.	USFS	2013-09-23USFSjEavis.pdf
9/25/2013	Katie McCafferty (USACE) emailed Cory Warnock (McMillen) regarding work group designations.	USACE	2013-09-25USACEkMcCafferty.pdf
9/25/2013	Joe Klein (ADFG) emailed Cory Warnock (McMillen) regarding work group designations.	ADFG	2013-09-25ADFGjKlein.pdf
9/27/2013	Cory Warnock (McMillen) emailed Pam Russell (ADNR) and Patti Berkahn (ADFG) with a photo of the fuel containment structure.	ADFG; ADNR	2013-09-27ADNRpRussellADFGpBerkahn.pdf

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9/30/2013	Scott Ayers (ADFG) emailed Cory Warnock Amendment 5 to the Fish Resource Permit.	ADFG	2013-09-30ADFGsAyers.pdf
10/7/2013	Cory Warnock (McMillen) emailed Patti Berkhahn and Ginny Litchfield (ADFG) regarding possible need for permit amendment in order to utilize box trap.	ADFG	2013-10-07ADFGpBerkhahn.pdf
10/7/2013	Cory Warnock (McMillen) and Patti Berkhahn (ADFG) exchanged emails regarding written authorization to permit use of box trap.	ADFG	2013-10-07ADFGpBerkhahn2.pdf
10/21/2013	Dwayne Adams (USKH) emailed John Eavis (USFS) regarding scheduling of a INHT meeting.	USFS	2013-10-21USFSjEavis.pdf
10/23/2013	Cory Warnock (McMillen) exchanged emails with Eric Rothwell (NOAA Fisheries) regarding general Grant Lake Hydroelectric Project information and potential agency meeting dates for discussing study reports.	NOAA	2013-10-23NOAAeRothwell.pdf
10/23/2013	Dwayne Adams (USKH) exchanged emails with John Eavis (USFS) regarding scheduling of a INHT meeting.	USFS	2013-10-23USFSjEavis.pdf
10/24/2013	Dwayne Adams (USKH) and Pam Russell (ADNR) discussed via phone a November INHT meeting. (Dwayne left voicemails for Russell to discuss same on 8/12 and 8/27.)	ADNR	2013-10-24ADNRpRussell.pdf
10/28/2013	Dwayne Adams (USKH) emailed interested licensing participants notice of a November 13, 2013 INHT meeting.	ADFG; ADNR; USFS; Kenai Peninsula Borough	2013-10-28INHTmtgNotice.pdf
11/1/2013	Amal Ajmi (ERM) exchanged emails with Katherine VanMassenhove (USFS) regarding winter moose surveys and relevant permits.	USFS	2013-11-01USFSkVanMassenhove.pdf
11/6/2013	Dwayne Adams (USKH) emailed interested licensing participants materials for the November 13, 2013 INHT meeting. NOTE: Map is designated privileged.	ADFG; ADNR; USFS; Kenai Peninsula Borough	2013-11-06INHTmtgMaterials.pdf
11/7/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding winter moose surveys and reissuance of the existing special use permit.	USFS	2013-11-07USFSkVanMassenhove.pdf
11/11/2013	Cory Warnock (McMillen) emailed Andy Barclay (ADFG) inquiring about assisting with genetic sampling of anadromous species.	ADFG	2013-11-11ADFGaBarclay.pdf
11/12/2013	Cory Warnock (McMillen) emailed Ken Gates (USFWS) preliminary weir data collected during the 2013 field season.	USFWS	2013-11-12USFWSkGates.pdf
11/13/2013	Dwayne Adams (USKH) exchanged emails with Lesli Schick (ADNR) regarding next steps for laying out the INHT route.	ADNR	2013-11-13ADNRlSchick.pdf

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11/13/2013	HEA held a meeting to discuss the re-route of the INHT. NOTE: Presentation is designated privileged.	All Licensing Contacts	2013-11-13INHTmtg.pdf
11/15/2013	John Blum (McMillen) emailed Eric Rothwell (NOAA Fisheries), Jeff Anderson (USFWS) and Monte Miller (ADFG) regarding the status of the Grant Creek instream flow (IFIM) study and the Washington Department of Fish and Wildlife's IFIM study guidelines.	ADFG; USFWS; NOAA	2013-11-15HSI curves.pdf
11/18/2013	Cory Warnock (McMillen) emailed Shina Duvall and Lesli Schick (ADNR) follow up to the November 13, 2013 meeting regarding the proposed INHT route.	ADNR	2013-11-18ADNRISchickSduvall.pdf
11/19/2013	Cory Warnock (McMillen) exchanged emails with Eric Rothwell (NOAA Fisheries) and Monte Miller (ADFG) regarding habitat suitability (HSI) curves.	ADFG; NOAA	2013-11-19HSIcurves.pdf
11/19/2013	Monte Miller (ADFG) emailed Eric Rothwell (NOAA Fisheries), Jeff Anderson (USFWS), Joe Klein (ADFG), and Cory Warnock and John Blum (McMillen) the Cooper Lake Project instream flow study report (attachment not included).	ADFG; USFWS; NOAA	2013-11-19ADFGmMiller.pdf
11/20/2013	Cory Warnock (McMillen) exchanged emails with Eric Rothwell (NOAA Fisheries) regarding scheduling a call to discuss HSI curves.	NOAA	2013-11-20NOAAeRothwell.pdf
11/20/2013	Cory Warnock (McMillen) exchanged emails with Shina Duvall and Lesli Schick (ADNR) regarding scheduling a call to discuss cultural resources and the proposed INHT route.	ADNR	2013-11-20ADNRsDuvallLschick.pdf
11/22/2013	HEA held a conference call to discuss the INHT reroute and the associated cultural/historical impacts.	ADNR	2013-11-22INHTsection106Call.pdf
11/25/2013	Cory Warnock (McMillen) exchanged emails with Jeff Anderson (USFWS) regarding a proposed date for a call to discuss HSI curves.	USFWS	2013-11-25HSIcurves.pdf
11/25/2013	Cory Warnock (McMillen) exchanged emails with Monte Miller (ADFG) regarding a proposed date for a call to discuss HSI curves.	ADFG	2013-11-25HSCIcurves2.pdf
11/27/2013	HEA held a conference call to discuss HSI curves.	ADFG; USFWS; NOAA	2013-11-27HSIcurveCall.pdf
12/2/2013	Cory Warnock (McMillen) and Mark Luttrell (Artifact Illustration) exchanged emails regarding the overall status of the Grant Lake licensing process and the activities related to cultural resources.	Artifact Illustration	2013-12-02ArtifactIllustrationMluttrell.pdf
12/2/2013	Cory Warnock (McMillen) exchanged emails with Harold Shepherd (Center for Water Advocacy) regarding work group designations.	Center for Water Advocacy	2013-12-02CWAhShepherd.pdf
12/2/2013	Cory Warnock (McMillen) exchanged emails with Mark Willette (ADFG) regarding the Chinook scale sample aging effort.	ADFG	2013-12-02ADFGmWillette.pdf

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12/5/2013	John Blum (McMillen) emailed Eric Rothwell (NOAA Fisheries), Jeff Anderson (USFWS) and Monte Miller (ADFG) follow up to the November 27 conference call regarding HSI curves.	ADFG; USFWS; NOAA	2013-12-05HSIcurves.pdf
12/9/2013	Cory Warnock (McMillen) exchanged emails with Monte Miller (ADFG) regarding proposed HSI curves.	ADFG	2013-12-09ADFGmMiller.pdf
12/9/2013	Cory Warnock (McMillen) exchanged emails with Adam Reimer (ADFG) regarding preliminary counts of Chinook salmon that passed the weir in Grant Creek in 2013.	ADFG	2013-12-09ADFGaReimer.pdf
12/9/2013	Scott Ayers (ADFG) emailed John Stevenson (BioAnalysts) the data submission form related to ADFG's Fish Resources permit.	ADFG	2013-12-09ADFGsAyers.pdf
12/10/2013	Cory Warnock (McMillen) emailed interested stakeholders draft notes for the November 13, 2013 INHT meeting.	ADFG; ADNR; USFS; Kenai Peninsula Borough	2013-12-10INHTmtgDraftNotes.pdf
12/11/2013	Shina Duvall (ADNR) emailed Cory Warnock (McMillen) that she had no comments on the November 13, 2013 INHT meeting draft notes.	ADNR	2013-12-11ADNRsDuvall.pdf
12/12/2013	Cory Warnock (McMillen) exchanged emails with Katherine VanMassenhove (USFS) regarding the status of renewal of the special use permit.	USFS	2013-12-12USFSkVanMassenhove.pdf
12/12/2013	Monte Miller (ADFG) emailed John Blum (McMillen) a report regarding HSI curves for Fall Creek Project.	ADFG	2013-12-12ADFGmMiller.pdf
12/13/2013	Robert Stovall (USFS) emailed Cory Warnock (McMillen) that he had no comments on the November 13, 2013 INHT meeting draft notes.	USFS	2013-12-13USFSrStovall.pdf
12/16/2013	Monte Miller (ADFG) emailed John Blum (McMillen) a study plan regarding an instream flow study for Falls Creek Project.	ADFG	2013-12-16ADFGmMiller.pdf
12/18/2013	Lesli Schick (ADNR) emailed Cory Warnock (McMillen) comments on the draft notes for the November 13, 2013 INHT meeting.	ADNR	2013-12-18ADNRISchick.pdf
12/18/2013	John Blum (McMillen) emailed Eric Rothwell (NOAA Fisheries), Jeff Anderson (USFWS) and Monte Miller, Joe Klein and Jason Mouw (ADFG) proposed HSI curves.	ADFG; USFWS; NOAA	2013-12-18HSIcurvesRev.pdf
12/19/2013	Monte Miller (ADFG) emailed Cory Warnock (McMillen) regarding the status of ADFG's review of proposed HSI curves.	ADFG	2013-12-19ADFGmMiller.pdf
12/31/2013	John Stevenson (BioAnalysts) emailed Scott Ayers (ADFG) the 2013 fish collection data form as required by the Grant Lake fish resource permit.	ADFG	2013-12-31ADFGsAyers.pdf
1/2/2014	Cory Warnock (McMillen) exchanged emails with Harold Shepherd (Center for Water Advocacy) regarding the Grant Lake licensing process timeline.	Center for Water Advocacy	2014-01-02CWAhShepherd.pdf

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1/3/2014	John Stevenson (BioAnalysts) exchanged emails with Scott Ayers (ADFG) regarding the 2013 fish collection data form provided by HEA as required by the Grant Lake fish resource permit.	ADFG	2014-01-03ADFGsAyers.pdf
1/6/2014	John Stevenson (BioAnalysts) exchanged emails with Adam Reimer (ADFG) regarding 2013 Grant Creek Chinook passage estimates.	ADFG	2014-01-06ADFGaReimer.pdf
1/8/2014	Cory Warnock (McMillen) exchanged emails with Paul Torgerson (Grant Lake Mining) regarding water tests on Grant Lake.	Grant Lake Mining	2014-01-08WGrLkMiningPtorgerson.pdf
1/9/2014	Cory Warnock (McMillen) emailed Ken Hogan (FERC) the email from Grant Lake Mining regarding water testing.	FERC	2014-01-09FERCkHogan2.pdf
1/9/2014	Cory Warnock (McMillen) and Ken Hogan (FERC) discussed via phone 1) Grant Lake licensing process status; 2) collaborative approach to the INHT re-route; and 3) inquiries of Grant Lake Mining.	FERC	2014-01-09FERCkHogan.pdf
1/10/2014	Mike Salzetti (HEA) filed with FERC the November 13, 2013 INHT meeting summary. NOTE: Presentation is designated privileged.	FERC	2014-01-10INHTmtgNotes.pdf
1/13/2014	Cory Warnock (McMillen) exchanged emails with Robert Stovall (USFS) regarding the status of submittal of draft study reports and upcoming work group meetings.	USFS	2014-01-13USFSrStovall.pdf
1/21/2014	Cory Warnock (McMillen) emailed licensing participants with proposed dates for study report meetings.	All Licensing Contacts	2014-01-21StudyReportMtgDates.pdf
1/27/2014	Cory Warnock (McMillen) exchanged emails with Eric Rothwell (NOAA Fisheries) regarding potential March study report meeting dates.	NOAA	2014-01-27NOAAeRothwell.pdf
1/27/2014	Mark Luttrell (Artifact Illustration) emailed Cory Warnock (McMillen) requesting the privileged INHT meeting presentation from the November 13, 2013 INHT meeting notes.	Artifact Illustration	2014-01-27ArtifactIllustrationMluttrell.pdf
1/27/2014	Cory Warnock (McMillen) emailed licensing participants with final dates for study report meetings (March 18-21).	All Licensing Contacts	2014-01-27StudyReportMtgFinalDates.pdf
1/31/2014	Monte Miller (ADFG) emailed Cory Warnock (McMillen) contact information for Barbara Stanley's (USFS) replacements.	ADFG	2014-01-31ADFGmMiller.pdf
2/3/2014	Katherine VanMassenhove (USFS) emailed Cory Warnock (McMillen) about being Barbara Stanley's (USFS) replacement.	USFS	2014-02-03USFSkVanMassenhove.pdf

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2/11/2014	Cory Warnock (McMillen) emailed the NRWG regarding availability of the water quality/hydrology and recreation/visual resources draft study reports on the McMillen ftp site.	NRWG (NOAA Fisheries, NPS, USACE, ADFG, ADNR, AEA, Center for Water Advocacy, Friends of Cooper Landing, Kenaitze Indian Tribe)	2014-02-11StudyReports.pdf
2/18/2014	Mike Yarborough (CRC) emailed the CRWG that the study report meeting would be held on March 21, 2014 and regarding the availability of the cultural resources study draft report.	CRWG (USFS, ADNR, SHPO, Cook Inlet Region, Artifact Illustration , AK Fed of Natives, Native Village of Eklutna, Kenai Native Association, Ninilchik Village Tribe, Chenega Corp, Quetekack Native Tribe, Kenaitze Indian Tribe)	2014-02-18CRWGmtgDate.pdf
2/20/2014	Frank Winchell (FERC) emailed Mike Yarborough (CRC) regarding participation in the March 21 CRWG meeting.	FERC	2014-02-20CRWGmtgDate.log
2/20/2014	Dara Glass (CIRI) and Mark Luttrell (Artifact Illustration) emailed Mike Yarborough (CRC) regarding attendance at the March 21 CRWG meeting and request for a CD of the cultural resources study draft report.	Cook Inlet Region; Artifact Illustration	2014-02-20CIRIandArtifactIllustration.pdf
2/25/2014	Mike Yarborough (CRC) exchanged emails with Mark Luttrell (Artifact Illustration) regarding the March 21 CRWG meeting.	Artifact Illustration	2014-02-25ArtifactIllustrationMluttrell.pdf
2/26/2014	Mike Salzetti (HEA) filed with FERC the fourth preliminary permit progress report.	FERC	2014-02-26ProgressReport4th.pdf
2/26/2014	Helen Sagner (USFS) emailed Mike Salzetti (HEA) the 2014 Special Use Permit for review and signature.	USFS	2014-02-26USFShSagner.pdf
2/26/2014	Mike Salzetti (HEA) exchanged voicemails with Monte Miller (ADFG) regarding the recently filed 4th progress report.	ADFG	2014-02-26ADFGmMiller.pdf
2/27/2014	Eric Rothwell (NOAA Fisheries) exchanged emails with Cassie Thomas (NPS) regarding the potential conflict between meetings scheduled for HEA's Grant Lake Project and AEA's Susitna-Watana Project.	NOAA; NPS	2014-02-27StReportMtgDates.pdf
2/27/2014	Cory Warnock (McMillen) emailed the NRWG regarding availability of the geomorphology and terrestrial resources draft study reports on the McMillen ftp site.	NRWG (NOAA Fisheries, NPS, USACE, ADFG, ADNR, AEA, Center for Water Advocacy, Friends of Cooper Landing, Kenaitze Indian Tribe)	2014-02-27StudyReports.pdf
2/27/2014	Cory Warnock (McMillen) emailed the ARWG regarding availability of the macroinvertebrate/periphyton study report on the McMillen ftp site.	ARWG (NOAA Fisheries, USFWS, USACE, ADFG, ADNR, AEA, Friends of Cooper Landing)	2014-02-27StudyReports2.pdf

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2/28/2014	Cory Warnock (McMillen) and Robert Stovall (USFS) exchanged emails regarding USFS' participation in the March 18-21 study report meetings and their review of draft study reports.	USFS	2014-02-28USFSrStovall.pdf
2/28/2014	Mike Yarborough (CRC) and Dara Glass (CIRI) exchanged emails regarding CIRI availability to attend the March 21 CRWG meeting.	Cook Inlet Region	2014-02-28CIRIdGlass.pdf
3/4/2014	Emily Andersen (McMillen) exchanged emails with Robert Stovall (USFS) regarding the specifics of the March 18-21 study report meetings.	USFS	2014-03-04USFSrStovall.pdf
3/4/2014	Cory Warnock (McMillen) exchanged emails with Jason Mouw (ADFG) regarding difficulties with ADFG being able to access McMillen's ftp site.	ADFG	2014-03-04ADFGjMouw.pdf
3/4/2014	Cory Warnock (McMillen) exchanged emails with Jason Mouw (ADFG) regarding trying to post study reports to the ADFG ftp site.	ADFG	2014-03-04ADFGjMouw2.pdf
3/4/2014	Cory Warnock (McMillen) emailed the NRWG with the March 18, 2014 meeting agenda.	NRWG (NOAA Fisheries, NPS, USACE, ADFG, ADNR, AEA, Center for Water Advocacy, Friends of Cooper Landing, Kenaitze Indian Tribe)	2014-03-04StudyReportMtgAgenda.pdf
3/4/2014	Cory Warnock (McMillen) emailed the ARWG with the March 19 and 20, 2014 meeting agendas.	ARWG (NOAA Fisheries, USFWS, USACE, ADFG, ADNR, AEA, Friends of Cooper Landing)	2014-03-04StudyReportMtgAgenda2.pdf
3/4/2014	Cory Warnock (McMillen) emailed Jason Mouw the geomorphology, macroinvertebrate, recreation/visual resources, and water quality/hydrology draft study reports.	ADFG	2014-03-04ADFGjMouw3.pdf
3/5/2014	Robert Stovall (USFS) emailed his staff and copied Cory Warnock (McMillen) with the March 18 meeting agenda.	USFS	2014-03-05USFSrStovall.pdf
3/5/2014	Cory Warnock (McMillen) emailed the ARWG regarding availability of the fisheries assessment study report on the McMillen ftp site.	ARWG (NOAA Fisheries, USFWS, USACE, ADFG, ADNR, AEA, Friends of Cooper Landing)	2014-03-05StudyReport.pdf
3/5/2014	Cory Warnock (McMillen) emailed the ARWG regarding availability of the instream flow study report on the McMillen ftp site.	ARWG (NOAA Fisheries, USFWS, USACE, ADFG, ADNR, AEA, Friends of Cooper Landing)	2014-03-05StudyReport2.pdf
3/5/2014	Cory Warnock (McMillen) emailed Ken Hogan (FERC) the agendas for the March 18-20 study report meetings and suggested a follow up call to de-brief on the meetings.	FERC	2014-03-05FERCkHogan.pdf
3/7/2014	Cory Warnock (McMillen) exchanged emails with Ken Hogan (FERC) regarding scheduling a follow up call to de-brief on the March 18-21 study report meetings.	FERC	2014-03-07FERCkHogan.pdf

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3/7/2014	Cory Warnock (McMillen) exchanged emails with Jason Mouw (ADFG) regarding getting ADFG the fisheries assessment and instream flow draft study reports.	ADFG	2014-03-07ADFGjMouw.pdf
3/10/2014	Amal Ajmi (ERM) exchanged emails with Mary Ann Benoit (USFS) regarding plans for the spring moose survey.	USFS	2014-03-10USFSmBenoit.pdf
3/10/2014	Mike Salzetti (HEA) exchanged emails with Helen Sagner (USFS) regarding the execution of the special use permit renewal.	USFS	2014-03-10USFSsHsagner.pdf
3/13/2014	Mike Yarborough (CRC) emailed the CRWG the agenda for the March 21 CRWG meeting.	ADNR; FERC; USFS; Cook Inlet Region; SHPO; Artifact Illustration	2014-03-13CRWGmtgAgenda.pdf
3/18/2014	HEA held a meetings on March 18, 19 and 20, 2014 to discuss the Grant Lake Project Natural Resources, Draft Study Reports. [See 8/15/14 FERC filing entry for meeting materials.]	All Licensing Contacts	2014-03-18thru20-14SHmtgFinalNotes.pdf
3/19/2014	Audrey Alstrom (AEA) emailed Cory Warnock (McMillen) regarding not being able to attend the March 18-20 study report meetings.	AEA	2014-03-19AEAAalstrom.pdf
3/21/2014	HEA held a meetings on March 21, 2014 to discuss the Grant Lake Project Cultural Resources, Draft Study Report. [See 4/29/14 FERC filing entry for meeting materials.] NOTE: The meeting notes are designated privileged.	ADNR; FERC; USFS; Cook Inlet Region; SHPO; Artifact Illustration	2014-03-21-14CRWGmtgFinalNotes.pdf
3/24/2014	Cory Warnock (McMillen) emailed the IFSG a Go-To meeting invite for the March 27, 2014 IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-03-24IFSGcallInvite.pdf
3/24/2014	Cory Warnock (McMillen) exchanged emails with Monte Miller (ADFG) regarding the start time of the March 27, 2014 IFSG conference call.	ADFG	2014-03-24ADFGmMiller.pdf
3/24/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG regarding the availability of the March 18-20 meeting presentations on the Project website, comment deadline for draft study reports, and planning for the next work group meetings.	ARWG and NRWG	2014-03-24StudyReportMtgFollowup.pdf
3/24/2014	Mike Salzetti (HEA) emailed Helen Sagner (USFS) regarding the status of the signing of the renewed special use permit.	USFS	2014-03-24USFSsHsagner.pdf
3/25/2014	Cory Warnock (McMillen) exchanged emails with Hal Shepherd (Center for Water Advocacy) regarding access to draft study reports.	Center for Water Advocacy	2014-03-25CWAhshepherd.pdf
3/25/2014	Helen Sagner (USFS) emailed Mike Salzetti (HEA) the fully executed special use permit renewal.	USFS	2014-03-25USFSsHsagner.pdf

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3/25/2014	Mark Miller (BioAnalysts) emailed Mark Willette (ADFG) requesting confirmation regarding the 0.x data of the scale age analysis.	ADFG	2014-03-25ADFGmWillette.pdf
3/25/2014	Mark Miller (BioAnalysts) and Jeff Anderson (USFWS) had a follow up discussion via phone to the March 19, 2014 ARWG meeting.	USFWS	2014-03-25USFWSjAnderson.pdf
3/25/2014	Mark Miller (BioAnalysts) exchanged emails with Jeff Anderson (USFWS) regarding additional relevant information pertaining to rainbow trout and Dolly Varden.	USFWS	2014-03-25USFWSjAnderson2.pdf
3/25/2014	Mike Yarborough (CRC) emailed Frank Winchell (FERC) the March 21, 2014 CRWG meeting presentation. NOTE: Presentation is designated privileged.	FERC	2014-03-25FERCfWinchell.pdf
3/26/2014	John Blum (McMillen) exchanged emails with Jason Mouw (ADFG) with the range of flows upon which measurements were taken for the HSI work in Grant Creek.	ADFG	2014-03-26ADFGjMouw.pdf
3/26/2014	John Blum (McMillen) emailed the IFSG an agenda for the March 27, 2014 IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-03-26IFSGcallAgenda.pdf
3/27/2014	Levia Shoutis (ERM) emailed Katie McCafferty (USACE) with a proposed approach to the Grant Lake waters functional assessment, including a guidelines document.	USACE	2014-03-27USACEkMcCafferty.pdf
3/27/2014	Katie McCafferty (USACE) emailed Cory Warnock (McMillen) comments on the terrestrial resources study draft report.	USACE	2014-03-27USACEkMcCafferty2.pdf
3/27/2014	HEA held an IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-03-27IFSGcall.pdf
3/28/2014	John Blum (McMillen) emailed the IFSG draft notes from the March 27, 2014 IFSG conference call for review.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-03-28IFSGcallDraftNotes.pdf
3/28/2014	John Blum (McMillen) emailed the IFSG an updated periodicity chart for review and comment.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-03-28Periodicity.pdf
3/31/2014	Levia Shoutis (ERM) and Katie McCafferty (USACE) discussed via phone ERM's proposed approach to the waters functional assessment.	USACE	2014-03-31USACEkMcCafferty.pdf
4/2/2014	Cory Warnock (McMillen) exchanged emails with Ken Hogan (FERC) regarding follow up to their call about the March 18-21 study report meetings and the licensing process moving forward.	FERC	2014-04-02FERCkHogan.pdf
4/3/2014	Jason Mouw (ADFG) emailed John Blum (McMillen) regarding the updated periodicity chart.	ADFG	2014-04-03ADFGjMouw.pdf
4/3/2014	Jason Mouw (ADFG) emailed the IFSG a paper regarding fish incubation and groundwater.	ADFG	2014-04-03ADFGjMouw2.pdf

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4/3/2014	John Blum (McMillen) emailed the IFSG the final notes from the March 27, 2014 conference call and proposed dates for the next IFSG call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-04-03IFSGcallFinalNotes.pdf
4/4/2014	Jeff Anderson (USFWS) emailed John Blum (McMillen) regarding being unavailable for any of the proposed dates for the next IFSG conference call.	USFWS	2014-04-04USFWSjAnderson.pdf
4/9/2014	John Blum (McMillen) emailed the IFSG notice of the April 18, 2014 IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-04-09IFSGcallNotice.pdf
4/9/2014	Cory Warnock (McMillen) emailed the IFSG a Go-To meeting invite for the April 18, 2014 IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-04-09IFSGcallInvite.pdf
4/9/2014	Cory Warnock (McMillen) emailed Sue Walker (NOAA Fisheries) regarding her replacing Eric Rothwell (NOAA Fisheries) on the Grant Lake Project.	NOAA	2014-04-09NOAAsWalker.pdf
4/10/2014	Cory Warnock (McMillen) emailed Robert Stovall and John Eavis (USFS), Cassie Thomas (NPS), Lesli Schick (ADNR), and Dara Glass (CIRI) regarding the additional recreational study work planned for spring/summer 2014.	ADNR; USFS; NPS; Cook Inlet Region	2014-04-10TrailCams.pdf
4/15/2014	Cory Warnock (McMillen) and Dwayne Adams (USKH) exchanged emails with Cassie Thomas (NPS), John Eavis (USFS), and Pam Russell (ADNR) regarding feedback on the proposed trail camera work.	ADNR; USFS; NPS	2014-04-15TrailCamInput.pdf
4/15/2014	Dwayne Adams (USKH) and Pam Russell (ADNR) discussed via phone the permitting needs related to the proposed 2014 trail camera work.	ADNR	2014-04-15ADNRpRussell.pdf
4/16/2014	Cory Warnock (McMillen) emailed Robert Stovall and John Eavis (USFS), Cassie Thomas (NPS), Pam Russell and Lesli Schick (ADNR), and Dara Glass (CIRI) with a response to agency feedback on the proposed trail camera work.	ADNR; USFS; NPS; Cook Inlet Region	2014-04-16TrailCamResponse.pdf
4/16/2014	Mike Salzetti (HEA) emailed Paul Torgerson (Grant Lake Mining) a response letter to inquiries made by Mr. Torgerson about the Grant Lake Project.	Grant Lake Mining	2014-04-16GrantLkMiningPtorgerson.pdf
4/16/2014	Mike Salzetti (HEA) filed with FERC a response letter to Paul Torgerson (Grant Lake Mining).	FERC	2014-04-16GrantLkMiningPtorgerson2.pdf
4/16/2014	Frank Winchell (FERC) emailed Mike Yarborough (CRC) to let him know comments on the Cultural Resources, draft report are in the mail on a CD.	FERC	2014-04-16FERCfWinchell.pdf
4/17/2014	John Blum (McMillen) emailed the IFSG the agenda and materials for the April 18, 2014 IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-04-17IFSGcallAgendaMaterials.pdf
4/17/2014	Dwayne Adams (USKH) emailed Pam Russell (ADNR) a completed permit application for the proposed trail camera work.	ADNR	2014-04-17ADNRpRussell.pdf

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4/18/2014	Cory Warnock (McMillen) emailed Dara Glass (CIRI) the link to the Grant Lake Project website.	Cook Inlet Region	2014-04-18CIRIdGlass.pdf
4/18/2014	HEA held an IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-04-18IFSGcall.pdf
4/24/2014	Dwayne Adams (USKH) emailed interested licensing participants regarding a proposed INHT site visit proposed for May 21, 2014.	ADNR; USFS; SHPO	2014-04-24INHTsiteVisitDate.pdf
4/24/2014	Dwayne Adams (USKH) emailed Marcus Mueller (Kenai Peninsula Borough) regarding participation in the May 21, 2014 INHT site visit.	Kenai Peninsula Borough	2014-04-24KenaiBoroughMmueller.pdf
4/25/2014	John Blum (McMillen) emailed the IFSG draft notes from the April 18, 2014 IFSG conference call for review, spawning and rearing utilization, and proposed dates for the next IFSG call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-04-25IFSGcallDraftNotes.pdf
4/25/2014	Jeff Anderson (USFWS) emailed John Blum (McMillen) that he is unavailable for a IFSG meeting the week of May 19, 2014.	USFWS	2014-04-25USFWSjAnderson.pdf
4/29/2014	Dwayne Adams (USKH) emailed interested licensing participants regarding alternate dates for a INHT site visit.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-04-29INHTsiteVisitDate.pdf
4/29/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG draft notes for the March 18-20 study report meetings.	ARWG and NRWG	2014-04-29StudyReportMtgDraftNotes.pdf
4/29/2014	Mike Yarborough (CRC) emailed the CRWG draft notes for the March 21, 2014 CRWG meeting and proposed dates for the next CRWG meeting. NOTE: The meeting notes are designated privileged.	ADNR; FERC; USFS; Cook Inlet Region; SHPO; Artifact Illustration	2014-04-29CRWGmtgDraftNotes.pdf
4/30/2014	Jeff Anderson (USFWS) emailed Cory Warnock (McMillen) comments on the March 19, 2014 ARWG meeting draft notes.	USFWS	2014-04-30USFWSjAnderson.pdf
4/30/2014	Monte Miller (ADFG) emailed Cory Warnock (McMillen) comments of the draft natural resources study reports.	ADFG	2014-04-30ADFGmMiller.pdf
4/30/2014	Cory Warnock (McMillen) and Kathie McCafferty (USACE) exchanged emails regarding dates for a future Project Operations Workshop.	USACE	2014-04-30USACEkMcCafferty.pdf
5/1/2014	Frank Winchell (FERC) emailed Mike Yarborough (CRC) regarding his availability to attend the proposed July 2014 CRWG meeting.	FERC	2014-05-01FERCfWinchell.pdf
5/1/2014	John Blum (McMillen) emailed the IFSG following up regarding proposed May 22, 2014 date for next IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-05-01IFSGcallDate.pdf
5/1/2014	Shina Duvall (SHPO) emailed Cory Warnock (McMillen) comments on the cultural resources study draft report.	SHPO	2014-05-01SHPOsDuvall.pdf
5/1/2014	Robert Stovall (USFS) emailed Cory Warnock (McMillen) a status update on USFS' draft study report comments.	USFS	2014-05-01USFSrStovall.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
5/2/2014	Jason Mouw (ADFG) emailed John Blum (McMillen) confirmation of his and Monte Miller's availability for a May 22, 2014 IFSG call.	ADFG	2014-05-02ADFGjMouw.pdf
5/3/2014	Cory Warnock (McMillen) emailed the IFSG an Go-To Meeting invite for the May 22, 2014 IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-05-03IFSGcallInvite.pdf
5/5/2014	Jeff Anderson (USFWS) emailed John Blum (McMillen) that he is unavailable for the May 22, 2014 IFSG meeting.	USFWS	2014-05-05USFWSjAnderson.pdf
5/7/2014	Dwayne Adams (USKH) emailed interested licensing participants regarding alternate dates for a INHT site visit.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-05-07INHTsiteVisitDates.pdf
5/12/2014	John Blum (McMillen) emailed the IFSG the final meeting notes to the April 18, 2014 IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-05-12IFSGcallFinalNotes.pdf
5/13/2014	John Stevenson (BioAnalysts) and Scott Ayers (ADFG) discussed via phone the deadline for the fish resources permit reporting requirement.	ADFG	2014-05-13ADFGsAyers.pdf
5/14/2014	Paul Torgerson (Grant Lake Mining) emailed Mike Salzetti (HEA) inquiring as to when water test results from the 2013 study season would be available.	Grant Lake Mining	2014-05-14GrantLkMiningPtorgerson.pdf
5/14/2014	Dwayne Adams (USKH) emailed interested licensing participants regarding alternate dates for a INHT site visit.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-05-14INHTsiteVisitDates.pdf
5/14/2014	Dwayne Adams (Earthscope) emailed interested licensing participants notification of the July 15, 2014 INHT site visit.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-05-14INHTsiteVisitNotice.pdf
5/15/2014	Dwayne Adams (Earthscope) and Katherine VanMassenhove (USFS) exchanged emails regarding Katherine's participation in the July 15, 2014 INHT site visit.	USFS	2014-05-15USFSkVanMassenhove.pdf
5/19/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG notification of the July 7-8, 2014 Operations Workshop and Public Meeting.	ARWG and NRWG	2014-05-19JulyWorkshopDates.pdf
5/19/2014	Cory Warnock (McMillen) emailed Nicole Lantz (SHPO) a completed AHRS corporate user agreement application.	SHPO	2014-05-19SHPOnLantz.pdf
5/19/2014	Cory Warnock (McMillen) left a voicemail for Robert Stovall (USFS) regarding the status of finalization of the study reports.	USFS	2014-05-19USFSrStovall.pdf
5/20/2014	Cory Warnock (McMillen) emailed Nicole Lantz (SHPO) a completed AHRS corporate user agreement application and waiver for himself and Emily Andersen (McMillen).	SHPO	2014-05-20SHPOnLantz.pdf
5/21/2014	John Blum (McMillen) emailed the IFSG an agenda for the May 22, 2014 call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-05-21IFSGmtgAgenda.pdf
5/21/2014	Cory Warnock (McMillen) and Nicole Lantz (SHPO) exchanged emails regarding the approval of McMillen's AHRS data access.	SHPO	2014-05-21SHPOnLantz.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
5/22/2014	Cory Warnock (McMillen) and Dara Glass (CIRI) exchanged emails about Dara's unavailability to attend the May 22, 2014 IFSG call.	Cook Inlet Region	2014-05-22CIRIdGlass.pdf
5/22/2014	Cory Warnock (McMillen) emailed the IFSG a Go To Meeting invite for the June 12, 2014 IFSG call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-05-22IFSGmtgInvite.pdf
5/22/2014	HEA held a IFSG conference call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-05-22IFSGcall.pdf
5/23/2014	John Blum (McMillen) emailed the IFSG updated information regarding spawning and rearing locations.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-05-23SpawnRearLocations.pdf
5/27/2014	Dwayne Adams (Earthscape) emailed interested licensing participants notification of the July 15, 2014 INHT site visit.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-05-27INHTmtgDate.pdf
5/28/2014	John Blum (McMillen) emailed the IFSG draft notes for the May 22, 2014 call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-05-28IFSGDraftCallNotes.pdf
5/28/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG the location of the July 7-8 Operations Workshop and Public Meeting.	ARWG and NRWG	2014-05-28OperationsWorkshopLocation.pdf
5/29/2014	Levia Shoutis (ERM) and Katie McCafferty (USACE) exchanged emails regarding direct and indirect impacts to wetlands.	USACE	2014-05-29USACEkMcCafferty.pdf
6/2/2014	Jason Mouw (ADFG) emailed John Blum (McMillen) comments on the draft notes from the May 22, 2014 call.	ADFG	2014-06-02ADFGjMouw.pdf
6/10/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG an engineering/operations technical memo (1) in preparation for the July 7 Operations Workshop.	ARWG and NRWG	2014-06-10EngTechMemo.pdf
6/10/2014	John Blum (McMillen) and Monte Miller (ADFG) exchanged email regarding the requested input on the spawning transects and transect weighting information.	ADFG	2014-06-10ADFGmMiller.pdf
6/10/2014	John Blum (McMillen) emailed the IFSG final notes for the May 22, 2014 call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-06-10IFSGFinalCallNotes.pdf
6/11/2014	Cory Warnock (McMillen) and Hal Shepherd (CWA) exchanged emailed regarding details related to the July 8, 2014 Public Meeting.	Clean Water Advocacy	2014-06-11CWAhShepherd.pdf
6/13/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG an engineering/operations technical memo (2) in preparation for the July 7 Operations Workshop.	ARWG and NRWG	2014-06-13EngTechMemo2.pdf
6/13/2014	John Blum (McMillen) and Monte Miller (ADFG) exchanged emails regarding the requested input on the spawning transects and transect weighting information.	ADFG	2014-06-13ADFGmMiller.pdf
6/13/2014	John Blum (McMillen) emailed the IFSG revised final notes for the May 22, 2014 call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-06-13IFSGrevFinalCallNotes.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
6/16/2014	John Blum (McMillen) and IFSG members exchanged emailed regarding dates for a June call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-06-16IFSGcallAvailability.pdf
6/16/2014	Cory Warnock (McMillen) emailed the IFSG a Go To Meeting invite for the June 23, 2014 IFSG call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-06-16IFSGcallInvite.pdf
6/16/2014	Robert Stovall (USFS) emailed Cory Warnock (McMillen) comments on the draft study reports.	USFS	2014-06-16USFSrStovall.pdf
6/16/2014	Cory Warnock (McMillen) emailed Robert Stovall (USFS) regarding the USFS draft study report comments.	USFS	2014-06-16USFSrStovall2.pdf
6/17/2014	John Blum (McMillen) and Jason Mouw (ADFG) exchanged emails regarding the requested input on the spawning transects and transect weighting information.	ADFG	2014-06-17ADFGjMouw.pdf
6/20/2014	John Blum (McMillen) emailed the IFSG about rescheduling the June 23, 2014 call.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-06-20IFSGrescheduleCall.pdf
6/20/2014	Cory Warnock (McMillen) and Dara Glass (CIRI) exchanged emails about scheduling a meeting between HEA and CIRI.	Cook Inlet Region	2014-06-20CIRIdGlass.pdf
6/23/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG regarding postponement of the July 8, 2014 Public Meeting to later in the year.	ARWG and NRWG	2014-06-23PublicMtgDelay.pdf
6/23/2014	Cory Warnock (McMillen) and Brendan Culverwell (SNL Financial) exchanged emails regarding the status of the licensing process.	SNL Financial	2014-06-23SNLfinancialBculverwell.pdf
6/27/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG an engineering/operations technical memo (3) in preparation for the July 7 Operations Workshop.	ARWG and NRWG	2014-06-27EngTechMemo3.pdf
7/2/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG an agenda for the July 7, 2014 Operations Workshop.	ARWG and NRWG	2014-07-02OpsWorkshopAgenda.pdf
7/3/2014	Cory Warnock (McMillen) and Jeff Anderson (USFWS) exchanged emails regarding meeting materials for the July 7, 2014 Operations Workshop.	USFWS	2014-07-03USFWSjAnderson.pdf
7/7/2014	HEA held a workshop on July 7, 2014 to discuss proposed engineering and operations of the Grant Lake Project. [See 8/15/14 FERC filing entry for meeting materials.]	All Licensing Contacts	2014-07-07OpsWorkshop.pdf
7/8/2014	Cory Warnock (McMillen) and Dara Glass (CIRI) exchanged emails about scheduling a meeting between HEA and CIRI for the end of August.	Cook Inlet Region	2014-07-08CIRIdGlass.pdf
7/9/2014	Dwayne Adams (Earthscope) emailed interested licensing participants a reminder about the July 15, 2014 INHT site visit.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-07-09INHTsiteVisitReminder.pdf
7/9/2014	David Griffin (ADNR) emailed Dwayne Adams (Earthscope) that he will not be able to attend the July 15, 2014 INHT site visit.	ADNR	2014-07-09ADNRdGriffin.pdf

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7/11/2014	Dwayne Adams (Earthscope) emailed interested licensing participants requesting confirmation of planned attendance to the July 15, 2014 INHT site visit.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-07-11INHTsiteVisitAttendance.pdf
7/11/2014	Lesli Schick (ADNR) emailed Dwayne Adams (Earthscope) that she will be unable to attend the July 15, 2014 INHT site visit.	ADNR	2014-07-11ADNRISchick.pdf
7/15/2014	Claire Leclair (ADNR) emailed Dwayne Adams (Earthscope) that no one at ADNR will be able to attend the July 15, 2014 INHT site visit.	ADNR	2014-07-15ADNRcLeclair.pdf
7/15/2014	HEA conducted a site visit on July 15, 2014 to discuss possible alternatives to a current alignment of the INHT.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-07-15INHTsiteVisit.pdf
7/17/2014	John Blum (McMillen) emailed Joe Klein, Monte Miller, and Jason Mouw (ADFG) a draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-07-17ADFGhabQuantTransectWeight.pdf
7/17/2014	John Stevenson (BioAnalysts) emailed Joe Klein and Monte Miller (ADFG) maps discussed on the July 17, 2014 call regarding the draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-07-17ADFGtransectMaps.pdf
7/17/2014	Monte Miller (ADFG) emailed John Blum (McMillen) comments on the draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-07-17ADFGmMiller.pdf
7/17/2014	John Blum (McMillen), John Stevenson (BioAnalysts), and Joe Klein and Monte Miller (ADFG) discussed via phone the draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-07-17ADFGjKleinMmiller.pdf
7/18/2014	Cory Warnock (McMillen) and Betsy McCracken (USFWS) exchanged emails regarding logistics for transmitting study reports to USFWS.	USFWS	2014-07-18USFWSbMcCracken.pdf
7/25/2014	John Blum (McMillen) emailed Joe Klein, Monte Miller, and Jason Mouw (ADFG) a revised draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-07-25ADFGhabQuantTransectWeight.pdf
7/29/2014	Dwayne Adams (Earthscope) emailed interested licensing participants draft notes from the July 15, 2014 INHT Site Visit.	ADNR; USFS; Kenai Peninsula Borough; SHPO	2014-07-29INHTsiteVisitDraftNotes.pdf
7/29/2014	Dwayne Adams (Earthscope) left voicemails for John Eavis, Robert Stovall, and Alison Rein (USFS) requesting relevant Trail Management Objectives for the INHT.	USFS	2014-07-29USFSStmoRequest.pdf
7/30/2014	John Eavis (USFS) emailed Dwayne Adams (Earthscope) the draft Trail Management Objectives (TMO) for the relevant section of the INHT.	USFS	2014-07-30USFSjEavis.pdf
8/1/2014	John Blum (McMillen) emailed Joe Klein, Monte Miller, and Jason Mouw (ADFG) a second revised draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-08-01ADFGhabQuantTransectWeight.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
8/1/2014	Dwayne Adams (Earthscope) and Robert Stovall (USFS) discussed via phone the TMOs for the relevant portion of the INHT and USFS comments on the draft notes for the July 15, 2014 INHT site visit.	USFS	2014-08-01USFSrStovall.pdf
8/1/2014	Dwayne Adams (Earthscope) and Shina Duvall (SHPO) exchanged emails regarding the draft notes for the July 15, 2014 INHT site visit.	SHPO	2014-08-01SHPOsDuvall.pdf
8/1/2014	John Blum (McMillen) and Joe Klein (ADFG) exchanged emails regarding comments on the second revised draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-08-01ADFGjKlein.pdf
8/4/2014	John Blum (McMillen) emailed Joe Klein, Monte Miller, and Jason Mouw (ADFG) a third revised draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-08-04ADFGhabQuantTransectWeight.pdf
8/4/2014	John Blum (McMillen) and Joe Klein (ADFG) exchanged emails regarding ADFG approval of the third revised draft Habitat Quantification and Transect Weighting Methodology report.	ADFG	2014-08-04ADFGjKlein.pdf
8/5/2014	John Blum (McMillen) emailed the IFSG the final Habitat Quantification and Transect Weighting Methodology report.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-08-05IFSGhabQuantTransectWeight.pdf
8/15/2014	Mike Salzetti (HEA) filed with FERC the final notes and materials from the March 18-20, 2014 Stakeholder Meetings and July 7, 2014 Operations Workshop, responses to stakeholder draft study report comments, and final study reports.	FERC	2014-08-13MarchJulyMtgNotesFinalReports.pdf
8/18/2014	Cory Warnock (McMillen) and Scott Ayers (ADFG) exchanged emails regarding the Fisheries Assessment, Final Report. [See 8/15/14 FERC filing entry for the attached report.]	ADFG	2014-08-18ADFGsAyers.pdf
8/19/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG that the final notes from the March 18-20 and July 7 meetings, responses to stakeholder draft study report comments, and final study reports, are posted on the Kenai Hydro website.	ARWG and NRWG	2014-08-19MarchJulyMtgNotesFinalReports.pdf
8/20/2014	Cory Warnock (McMillen) and Scott Ayers (ADFG) exchanged emails regarding the Fisheries Assessment, Final Report.	ADFG	2014-08-20ADFGsAyers.pdf
8/20/2014	Mike Salzetti (HEA) emailed Jan Konigsberg (HRC) a status update on the progress made during the Grant Lake Project licensing process to date.	Hydro Reform Coalition	2014-08-20HRCjKonigsberg.pdf
8/22/2014	Dwayne Adams (Earthscope) emailed Gary Williams (KPB) an Initial Letter of Intent regarding the possible easement relocation for the INHT corridor and revised notes from the July 15, 2014 INHT site visit.	Kenai Peninsula Borough	2014-08-22KPBgWilliams.pdf

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Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
8/22/2014	Dwayne Adams (Earthscope) emailed Judy Bittner (SHPO) an Initial Letter of Intent regarding the possible easement relocation for the INHT corridor and revised notes from the July 15, 2014 INHT site visit.	SHPO	2014-08-22SHPOjBittner.pdf
8/22/2014	Dwayne Adams (Earthscope) emailed Jack Blackwell (ADNR) an Initial Letter of Intent regarding the possible easement relocation for the INHT corridor and revised notes from the July 15, 2014 INHT site visit.	ADNR	2014-08-22ADNRjBlackwell.pdf
8/22/2014	Dwayne Adams (Earthscope) emailed Clark Cox (ADNR) an Initial Letter of Intent regarding the possible easement relocation for the INHT corridor and revised notes from the July 15, 2014 INHT site visit.	ADNR	2014-08-22ADNRcCox.pdf
8/22/2014	Dwayne Adams (Earthscope) emailed Terri Maceron (USFS) an Initial Letter of Intent regarding the possible easement relocation for the INHT corridor and revised notes from the July 15, 2014 INHT site visit.	USFS	2014-08-22USFSStMaceron.pdf
8/25/2014	Dwayne Adams (Earthscope) and Marcus Mueller (KPB) exchanged emails regarding the management authority related to the Kenai Area Plan.	Kenai Peninsula Borough	2014-08-25KPBmMueller.pdf
8/25/2014	Dwayne Adams (Earthscope) and Shina Duvall (SHPO) discussed via phone the purposes of a Memorandum of Agreement (MOA) versus an Memorandum of Understanding (MOU).	SHPO	2014-08-25SHPOsDuvall.pdf
8/27/2014	Dwayne Adams (Earthscope) and John Eavis (USFS) exchanged emails regarding the status of flagging the alternate INHT route.	USFS	2014-08-27USFSjEavis.pdf
8/27/2014	Mike Salzetti (HEA) filed with FERC the fifth preliminary permit progress report.	FERC	2014-08-27ProgressReport5th.pdf
8/27/2014	Dwayne Adams (Earthscope) and Shina Duvall (SHPO) exchanged emails regarding the difference between a Memorandum of Agreement (MOA) and Memorandum of Understanding (MOU).	SHPO	2014-08-27SHPOsDuvall.pdf
8/29/2014	Cory Warnock (McMillen) and Scott Ayers (ADFG) exchanged emails regarding ADFG's input on the Fisheries Assessment, Final Report with respect to the Fish Resources permit.	ADFG	2014-08-29ADFGsAyers.pdf
8/29/2014	Cory Warnock (McMillen) emailed the ARWG and NRWG the 5th preliminary permit progress report.	ARWG and NRWG	2014-08-29ProgressReport5th.pdf
8/29/2014	David Griffin (ADNR) emailed Cory Warnock (McMillen) requesting that Ryan Thomas, a new ADNR staff person assigned to permitting, be added to the project distribution list.	ADNR	2014-08-29ADNRdGriffin.pdf
8/29/2014	Robert Stovall (USFS) emailed Dwayne Adams (Earthscope), Mike Salzetti (HEA), and Cory Warnock (McMillen) regarding providing comments on the proposed MOA related to the INHT re-alignment.	USFS	2014-08-29USFSrStovall.pdf

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9/4/2014	John Stevenson (BioAnalysts) emailed Jay Johnson (ADFG) requesting details regarding an AWC submittal.	ADFG	2014-09-04ADFGjJohnson.pdf
9/4/2014	John Stevenson (BioAnalysts) and Scott Ayers (ADFG) exchanged emails regarding AWC submittal.	ADFG	2014-09-04ADFGsAyers.pdf
9/5/2014	John Stevenson (BioAnalysts) and Scott Ayers (ADFG) exchanged emails regarding AWC submittal and completion of the fish resource permit requirements.	ADFG	2014-09-05ADFGsAyers.pdf
9/5/2014	John Stevenson (BioAnalysts) emailed Jay Johnson (ADFG) requisite materials for an AWC nomination.	ADFG	2014-09-05ADFGjJohnson.pdf
9/5/2014	John Stevenson (BioAnalysts) and Jay Johnson (ADFG) exchange emails regarding the transmittal of materials for an AWC nomination.	ADFG	2014-09-05ADFGjJohnson2.pdf
9/5/2014	John Stevenson (BioAnalysts) emailed Scott Ayers (ADFG) that AWC nomination materials had been submitted.	ADFG	2014-09-05ADFGsAyers2.pdf
9/19/2014	Robert Stovall (USFS) emailed Dwayne Adams (Earthscope), Mike Salzetti (HEA), and Cory Warnock (McMillen) a response letter on the Letter of Intent and MOA related to the INHT re-alignment.	USFS	2014-09-19USFSrStovall.pdf
9/22/2014	Cory Warnock (McMillen) and Robert Stovall (USFS) discussed via phone the USFS' response letter to the Letter of Intent and MOA related to the INHT re-alignment.	USFS	2014-09-22USFSrStovall.pdf
10/13/2014	Cory Warnock (McMillen) emailed Lesli Schick (ADNR) to request a phone conference to discuss the INHT re-alignment process moving forward.	ADNR	2014-10-13ADNRISchick.pdf
10/13/2014	Dwayne Adams (Earthscope) and Karen Morrissey (ARRC) exchanged emails regarding ARRC policy on public use of ARRC trestle in Moose Pass.	Alaska Railroad Corporation	2014-10-13ARRCkMorrissey.pdf
10/16/2014	Cory Warnock (McMillen) emailed an appointment notification to Lesli Schick (ADNR) for a phone conference on October 20 to discuss the INHT re-alignment process going forward.	ADNR	2014-10-16ADNRISchick.pdf
10/17/2014	Dara Glass (CIRI) emailed Ethan Shutt (CIRI), Mike Salzetti (KHL), and Cory Warnock (McMillen) an appointment notification for a meeting on November 5, 2014 to discuss the status of the Grant Lake Project licensing process.	Cook Inlet Region	2014-10-17CIRIdGlass.pdf
10/17/2014	Cory Warnock (McMillen) and Dara Glass (CIRI) exchanged emails confirming a meeting on November 5, 2014 to discuss the status of the Grant Lake Project licensing process.	Cook Inlet Region	2014-10-17CIRIdGlass2.pdf

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10/20/2014	Cory Warnock (McMillen) emailed the ARWG and NRW a notice for the November 6, 2014 Public Meeting.	ARWG and NRW	2014-10-20PublicMtgNotice.pdf
10/20/2014	Mike Salzetti (HEA) and Sean Skaling (AEA) exchanged emails regarding AEA's potential participation in the November 6 AEA meeting.	AEA	2014-10-20AEAsSkaling.pdf
10/20/2014	Cory Warnock (McMillen) emailed interested parties in the INHT with an update to the re-alignment process.	ADNR; USFS; SHPO	2014-10-20INHTprocess.pdf
10/20/2014	Cory Warnock (McMillen), Dwayne Adams (Earthscope), Mike Yarborough (CRC), and Lesli Schick (ADNR) discussed via phone a modified process for the INHT re-alignment.	ADNR	2014-10-20ADNRISchick.pdf
10/21/2014	Robert Stovall (USFS) emailed Mike Salzetti (HEA) and Cory Warnock (McMillen) regarding USFS' participation in the November 6 Public Meeting.	USFS	2014-10-21USFSrStovall.pdf
10/27/2014	John Blum (McMillen) emailed the IFSG the draft Aquatics Habitat Mapping and Instream Flow Study, report addendum.	IFSG (NOAA Fisheries, USFWS, ADFG, Cook Inlet Region)	2014-10-27IFIMaddendumReport.pdf
10/29/2014	Mike Salzetti (KHL) and Bruce Jaffa (Jaffa Construction) exchanged emails regarding adding Jaffa to the stakeholder distribution list.	Jaffa Construction	2014-10-29JaffaConstrBJaffa.pdf
10/31/2014	Levia Shoutis (ERM) and Katy McCafferty (USACE) exchanged emails regarding the 404 application review process and the differences between a preliminary JD and an approved JD.	USACE	2014-10-31USACEkMcCafferty.pdf
10/31/2014	Cory Warnock (McMillen) emailed Jeff Hetrick the public service announcement for the November 6 Public Meeting.	Citizen	2014-10-31jHetrick.pdf
11/1/2014	Mike Yarborough (CRC) was copied on an email from Mark Luttrell (Artifact Illustration) regarding the November 6 Public meeting.	Artifact Illustration	2014-11-01ArtifactIllustrationMluttrell.pdf
11/3/2014	Matt McMillan (Stantec) and Pam Russell (ADNR) exchanged emails regarding a permit for use of three trail cameras around Grant Lake.	ADNR	2014-11-03ADNRpRussell.pdf
11/5/2014	Mike Salzetti (HEA) and Cory Warnock (McMillen Jacobs) met with Ethan Shutt and Dara Glass (CIRI) to provide an update on the Grant Lake Hydroelectric Project progress.	Cook Inlet Region	2014-11-05CIRImtg.pdf
11/6/2014	HEA held a Public Meeting in Moose Pass, AK. [See 12/15/14 FERC filing entry for meeting materials.]	All Licensing Contacts	2014-11-06PublicMtg.pdf
11/8/2014	Dan Hertrich (AEA) emailed Mike Salzetti (HEA) and Cory Warnock and Mort McMillen (McMillen) thanking them for the Grant Lake Project description and sharing general approval for the project.	AEA	2014-11-08AEAdHertrich.pdf

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11/10/2014	Levia Shoutis (ERM) and Katie McCafferty (USACE) exchanged emails regarding the organization and content of the Section 404 permit application.	USACE	2014-11-10USACEkMcCafferty.pdf
11/11/2014	Cory Warnock (McMillen) and David Griffin (ADNR) exchanged emails regarding the ADNR proposal for an MOU between KHL and ADNR regarding post-licensing activities.	ADNR	2014-11-11ADNRdGriffin.pdf
11/11/2014	Cory Warnock (McMillen) and Mark Luttrell (Artifact Illustration) exchanged emails regarding Mark's request for a current Grant Lake Project description.	Artifact Illustration	2014-11-11ArtifactIllustrationMluttrell.pdf
11/15/2014	Cory Warnock (McMillen) and Jeff Hetrick exchanged emails regarding questions by Jeff following the November 6 Public Meeting.	Citizen	2014-11-15jHetrick.pdf
11/24/2014	Cory Warnock (McMillen) emailed the November 6, 2014 Public Meeting participants the draft notes from the meeting.	Public mtg participants	2014-11-24PublicMtgDraftNotes.pdf
11/24/2014	Joe Gallagher (HEA) emailed JJ Kaiser the November 6 Public Meeting draft notes.	Citizen	2014-11-24jjKaiser.pdf
11/24/2014	Cory Warnock (McMillen) and Mark Luttrell (Artifact Illustration) exchanged emails regarding Mark's request for a current Grant Lake Project description.	Artifact Illustration	2014-11-24ArtifactIllustrationMluttrell.pdf
12/5/2014	Levia Shoutis (ERM) and Katie McCafferty (USACE) discussed via phone the content and organization of the Section 404 permit application.	USACE	2014-12-05USACEkMcCafferty.pdf
12/11/2014	Mike Salzetti (HEA) gave a presentation to the Kenai River Special Management Area (KRSMA) Board.	ADNR	2014-12-11KRSMAboardMtg.pdf
12/12/2014	Levia Shoutis (ERM) and Katie McCafferty (USACE) discussed via phone various aspects of the wetlands-related discussion in the forthcoming Draft License Application and content of the Section 404 permit application.	USACE	2014-12-12USACEkMcCafferty.pdf
12/15/2014	Mike Salzetti (HEA) filed with FERC the final notes and materials from the November 6, 2014 Public Meeting.	All Licensing Contacts	2014-12-15PublicMtgFinalNotes.pdf
12/15/2014	Cory Warnock (McMillen) emailed ARWG and NRWG members the final notes from the November 6, 2014 Public Meeting. [See 12/15/14 FERC filing entry for minutes and materials.]	ARWG and NRWG	2014-12-15PublicMtgFinalNotes2.pdf
12/15/2014	Cory Warnock (McMillen) emailed public meeting participants the final notes from the November 6, 2014 Public Meeting. [See 12/15/14 FERC filing entry for minutes and materials.]	Public mtg participants	2014-12-15PublicMtgFinalNotes3.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
12/17/2014	Cory Warnock (McMillen) and Katharine Glaser exchanged emails regarding timing of DLA commenting.	Citizen	2014-12-17kGlaser.pdf
12/29/2014	Dwayne Adams (Earthscape) and John Eavis (USFS) exchanged emails regarding potential costs for the new segment of the INHT.	USFS	2014-12-29USFSjEavis.pdf
1/5/2015	Levia Shoutis (ERM) and Katie McCafferty (USACE) exchanged emails regarding the need for an approved jurisdictional determination form with the application request for a preliminary determination.	USACE	2015-01-05USACEkMcKafferty.pdf
1/8/2015	Levia Shoutis (ERM) and Katie McCafferty (USACE) exchanged emails regarding the schedule for submittal of a Section 404 application.	USACE	2015-01-08USACEkMcCafferty.pdf
1/8/2015	Mike Salzetti (HEA) gave a presentation to the Kenai Peninsula Economic Outlook Forum.	Kenai Peninsula Economic Outlook Forum	2015-01-08KenaiPenOutlookForumPres.pdf
1/9/2015	Jason Mouw (ADF&G) emailed John Blum (McMillen Jacobs) requesting additional information regarding the Aquatic Habitat Mapping and Instream Flow Study, Addendum Report.	ADFG	2015-01-09ADFGjMouw.pdf
1/9/2015	John Mohorcich (KPB) emailed Joe Gallagher (HEA) regarding issuance of a preliminary decision by ADNDR for the conveyance of lands to the Kenai Peninsula Borough.	Kenai Peninsula Borough	2015-01-09KPBjMohorcich.pdf
1/13/2015	John Blum (McMillen) and Jason Mouw (ADF&G) discussed via phone ADF&G's request for additional information related to the Aquatic Habitat and Instream Flow Study, Addendum Report.	ADFG	2015-01-13ADFGjMouw.pdf
1/20/2015	Emily Andersen and Cory Warnock (McMillen Jacobs) and Ken Hogan (FERC) exchanged emails regarding scheduling a call for January 27 to discuss the status of the Grant Lake Project licensing process.	FERC	2015-01-20FERCkHogan.pdf
1/22/2015	Emily Andersen and Cory Warnock (McMillen Jacobs) and Ken Hogan (FERC) exchanged emails regarding preliminary permit extensions.	FERC	2015-01-22FERCkHogan.pdf
1/27/2015	Mike Salzetti (HEA) filed with FERC an preliminary permit extension request.	FERC	2015-01-27FERCextensionRequestLtr.pdf
1/27/2015	John Blum (McMillen Jacobs) and Jason Mouw (ADF&G) exchanged emails regarding McMillen's expanded WUA information.	ADFG	2015-01-27ADFGjMouw.pdf
1/28/2015	Jason Mouw (ADF&G) emailed John Blum (McMillen Jacobs) with a question about the Grant Creek hydrologic dataset.	ADFG	2015-01-28ADFGjMouw.pdf
2/1/2015	Mike Salzetti (HEA) emailed Karen Kromrey (USFS) about the current mining plan in the area of the proposed Grant Lake Hydroelectric Project.	USFS	2015-02-01USFSkKromrey.pdf
2/2/2015	Cory Warnock (McMillen Jacobs) emailed Irene Lindquist (USFS) with a status update on Draft License Application development and the target submittal date.	USFS	2015-02-02USFSiLindquist.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

Date	Summary of Contact	Agency/Organization Consulted	Documentation filename (pdf)
2/2/2015	Mike Salzetti (HEA) and Mary Hermon (ADNR) exchanged emails regarding HEA's comment regarding the Preliminary Decision of Land Conveyance.	ADNR	2015-02-02ADNRmHermon.pdf
2/6/2015	Mike Yarborough (CRC) emailed current CRWG members that a findings letter and Cultural Resources Study Final Report was mailed on CD.	CRWG: USFS, ADNR, SHPO, CIRC, Artifact Illustrations	2015-02-06CRfinalReport.pdf
2/6/2015	Mike Yarborough (CRC) mailed current CRWG members a findings letter and Cultural Resources Study Final Report on CD. Note: The letter and report are designated Privileged.	CRWG: USFS, ADNR, SHPO, CIRC, Artifact Illustrations	2015-02-06CRfinalReport2.pdf
2/9/2015	John Blum (McMillen Jacobs) emailed Jason Mouw (ADF&G) clarifying information regarding the Grant Creek hydrologic record.	ADFG	2015-02-09ADFGjMouw2.pdf
2/9/2015	John Blum (McMillen Jacobs) and Jason Mouw (ADF&G) discussed via phone ADF&G's questions regarding the Grant Creek hydrologic record.	ADFG	2015-02-09ADFGjMouw.pdf
2/18/2015	Barb Whiton (McMillen Jacobs) emailed select licensing contacts requesting mailing information for the forthcoming Draft License Application.	All Licensing Contacts	2015-02-18DLAmailingInfo.pdf
2/24/2015	Mike Salzetti (HEA) filed with FERC the findings letter and Cultural Resources Study, Final Report. Note: The letter and report are designated Privileged.	FERC	2015-02-24CRfinalReport.pdf
2/26/2015	Mike Salzetti (HEA) contributed to a letter from Sara Fisher-Goad (AEA) to Representative Gara responding to a letter from his office dated February 13 regarding concerns with the Grant Lake Project.	Representative Gara	2015-02-26RepGara.pdf
2/27/2015	FERC issued an order denying extension of term for preliminary permit.	FERC	2015-02-27ExtensionDenial.pdf
3/2/2015	Mike Salzetti (HEA) and David Griffin (ADNR) exchanged emails regarding ADNR's inquiry about the potential for development of an MOU between ADNR and HEA related to the Grant Lake Project.	ADNR	2015-03-02ADNRdGriffin.pdf

Grant Lake Hydroelectric Project
Licensing Consultation Record Summary

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From: Michael Yarborough [mailto:salvagerecovery@gmail.com]
Sent: Monday, June 01, 2015 11:08 AM
To: Mark Luttrell
Cc: Warnock, Cory
Subject: Re. Grant Lake questions

Mark

In regards to your question about sharing information from our report and the historic properties management plan, these documents are still considered drafts and should not be shared with your colleagues or the public. The report and the management plan fall under the provisions of the IBS/AHRS user agreement with the Office of History and Archaeology that both you and McMillan have signed. Ultimately, our report will be available through the AHRS system to qualified individuals, and the management plan, as part of a programmatic agreement, will be part of the public record. Until then, however, these documents are privileged for many reasons and should not be shared outside of those involved in the Section 106 process. Please do not share or cite existing cultural documents that have not been designated as public. In addition, I'm happy to answer any further questions you may have, but please Cc Cory Warnock on any further correspondence.

Mike

--
Michael R. Yarborough
Senior Archeologist
Cultural Resource Consultants LLC
3504 E. 67th Avenue
Anchorage, Alaska 99507
Anchorage: (907) 349-3445
Cell: (907) 306-6069

Grant Lake Hydroelectric Project (FERC No. 13212)

Biotic Monitoring Plan

Draft

Kenai Hydro, LLC

June 2015

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Acronyms and Abbreviations

ADF&G	Alaska Department of Fish & Game
AEIDC	Arctic Environmental Information and Data Center
ARRC	Alaska Railroad Corporation
AUC	area-under-the-curve
AWC	Anadromous Water Catalog
BMP	best management practices
cfs	cubic feet per second
CPUE	catch-per-unit-effort
DLA	Draft License Application
DTU	daily temperature unit
ECM	Environmental Compliance Monitor
FERC	Federal Energy Regulatory Commission
HVAC	heating, ventilating, and air conditioning
INHT	Iditarod National Historic Trail
KHI	Kenai Hydro, Inc.
KHL	Kenai Hydro, LLC
kV	kilovolt
kW	kilowatt
mm	millimeter
MW	megawatt
NAVD 88	North American Vertical Datum of 1988
OCMP	Operation Compliance Monitoring Plan
Plan	Biotic Monitoring Plan
POH	post-orbital hypural
PM&E	protection, mitigation, and enhancement
Project or Grant Lake Project	Grant Lake Hydroelectric Project
TWG	Technical Working Group
USGS	U.S. Geological Survey
WUA	weighted usable area

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Biotic Monitoring Plan

Draft

Grant Lake Hydroelectric Project (FERC No. 13212)

1 INTRODUCTION

This document provides a draft of Kenai Hydro, LLC's (KHL) proposed Biotic Monitoring Plan (Plan) for the Grant Lake Hydroelectric Project (Project or Grant Lake Project), Federal Energy Regulatory Commission (FERC) No. 13212. Activities associated with the proposed construction and operation of the Project include the construction of an intake structure in Grant Lake, a tunnel, a surge chamber, a penstock, a powerhouse, tailrace channel with fish exclusion barrier, access roads, a step-up transformer, a breaker, a transmission line, and a switchyard. The activities and structures associated with this Project have the potential to impact the aquatic resources.

This Plan includes background information on the Project, including baseline and advanced studies, identifies potential impacts to fish and fish habitat caused by the proposed Project. The plan also provides biotic monitoring requirements for three components: 1) during Project construction; 2) during Project operation; and 3) enhancement and mitigation measures.

1.1. Location

The proposed Grant Lake Project will be located near the community of Moose Pass, Alaska (population 219) in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska (population 2,693), and just east of the Seward Highway (State Route 9); this highway connects Anchorage (population 291,826) to Seward. The Alaska Railroad (ARRC) parallels the route of the Seward Highway, and is also adjacent to the Project area. Grant Lake is located in the mountainous terrain of the Kenai Mountain Range and has a normal water surface elevation of 703 feet North American Vertical Datum of 1988 (NAVD 88) and surface area of approximately 1,703 acres. A map showing the location of the Project is provided in Figure 1.¹

1.2. Project Description

The Grant Lake Project will consist of the Grant Lake/Grant Creek development, an intake structure in Grant Lake, a tunnel, a surge chamber, a penstock, a powerhouse, tailrace channel with a fish exclusion barrier, access roads, a step-up transformer, a breaker, a switchyard, and an overhead transmission line. The powerhouse will contain two Francis turbine generating units with a combined rated capacity of 5 megawatts (MW) with a maximum design flow of 385 cubic feet per second (cfs). The general proposed layout of the Project is shown in Figure 2.

¹ The Project boundary alignment, in the vicinity of Grant Lake, follows the 703-foot contour line derived from USGS developed topographic data. Due to imprecision in the USGS topography, the Project boundary around Grant Lake does not currently align with the USFS-developed aerial imagery presented in some of the maps that depict the Project boundary as proposed by KHL in the Draft License Application (DLA; KHL 2015a). The Project boundary alignment will be refined as additional survey data of the Grant Lake shoreline becomes available. The updated Project boundary is anticipated to align more precisely with USFS imagery.

1.2.1. Grant Creek Diversion

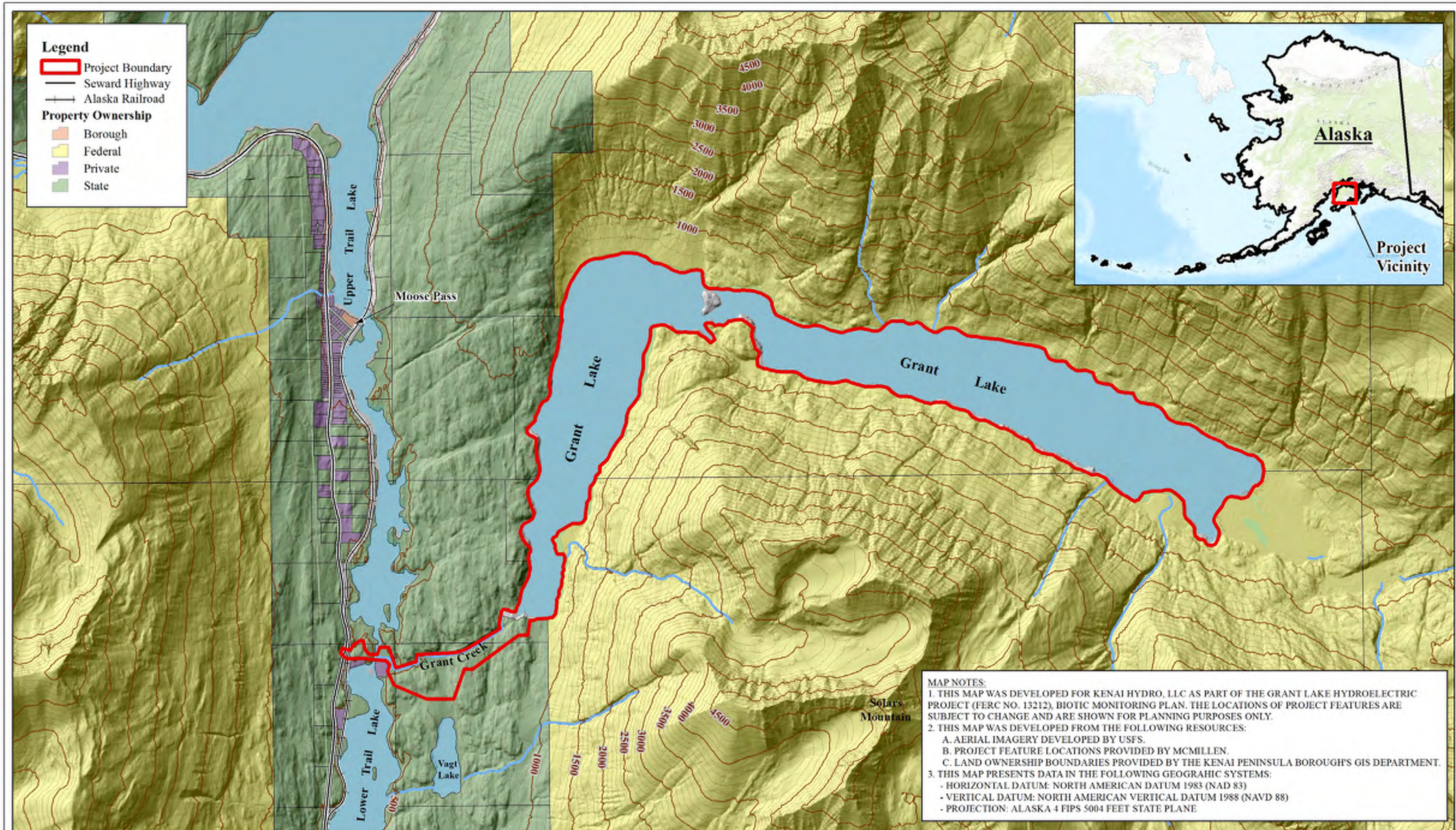
The proposed Project consists of a reinforced concrete intake structure located on the south side of the natural lake outlet. No structural modifications would be made to the existing lake natural outlet. The Project will divert water up to a maximum of 385 cfs into the intake structure. When the lake level exceeds the natural outlet of 703 feet NAVD 88, a maximum of 385 cfs will be diverted into the intake structure and routed to the powerhouse. Flow in excess of 385 cfs would pass over the natural outlet to Grant Creek.

1.2.2. Grant Lake Intake

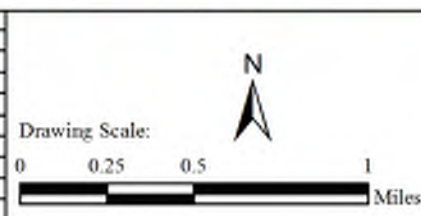
The Project water intake would be a concrete structure located approximately 500 feet east of the natural outlet of Grant Lake and adjacent to the shore. The intake structure consists of a reinforced concrete structure extending from approximately elevation 675 feet NAVD 88 up to a top deck elevation of 715 feet NAVD 88. The structure has an outside dimension of 38 feet by 20 feet. The structure includes intake trashracks, selective withdrawal intake gate with wire rope hoist, and a roller gate located on the water conveyance intake. The intake is divided into three bays, each fitted with an intake gate to provide flexibility for delivering the full flow range of 58 cfs to 385 cfs. The gate position within the water column will be set to deliver the required water temperature to Grant Creek below the powerhouse. The roller gate would be 11 feet tall by 11 feet wide and fitted with a wire rope hoist lift mechanism. Electrical power will be extended from the powerhouse to the intake to operate the intake and isolation gates. Pressure transducers will be installed to monitor the water level at the lake as well as within the intake tower. An access bridge 16 feet wide would be installed from the lake shore out to the intake structure.

The intake would allow for drawdown of Grant Lake to elevation 690 feet NAVD 88, thereby creating approximately 18,790 acre-feet of active storage for the Project between elevations 703 feet NAVD 88 and 690 feet NAVD 88. The intake can be designed to allow the Project to draw water near the surface at various levels of storage, if deemed necessary to meet downstream temperature requirements. The invert of the intake would be at elevation 675 feet NAVD 88 to provide for adequate submergence to the tunnel.

A bypass pipe would extend from the intake structure to the base of the existing water fall in Grant Creek. The installed pipe would be 900 feet long and approximately 18 inches in diameter, allowing the minimum flow ranging from 5 to 10 cfs to be released. A control gate would be located within the intake structure to regulate and monitor the bypass flow releases.



REV	DATE	BY	DESCRIPTION



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Developed For:



GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

BIOTIC MONITORING PLAN

Figure 1
Location Map of Project Vicinity

DESIGNED: Jake Woodbury

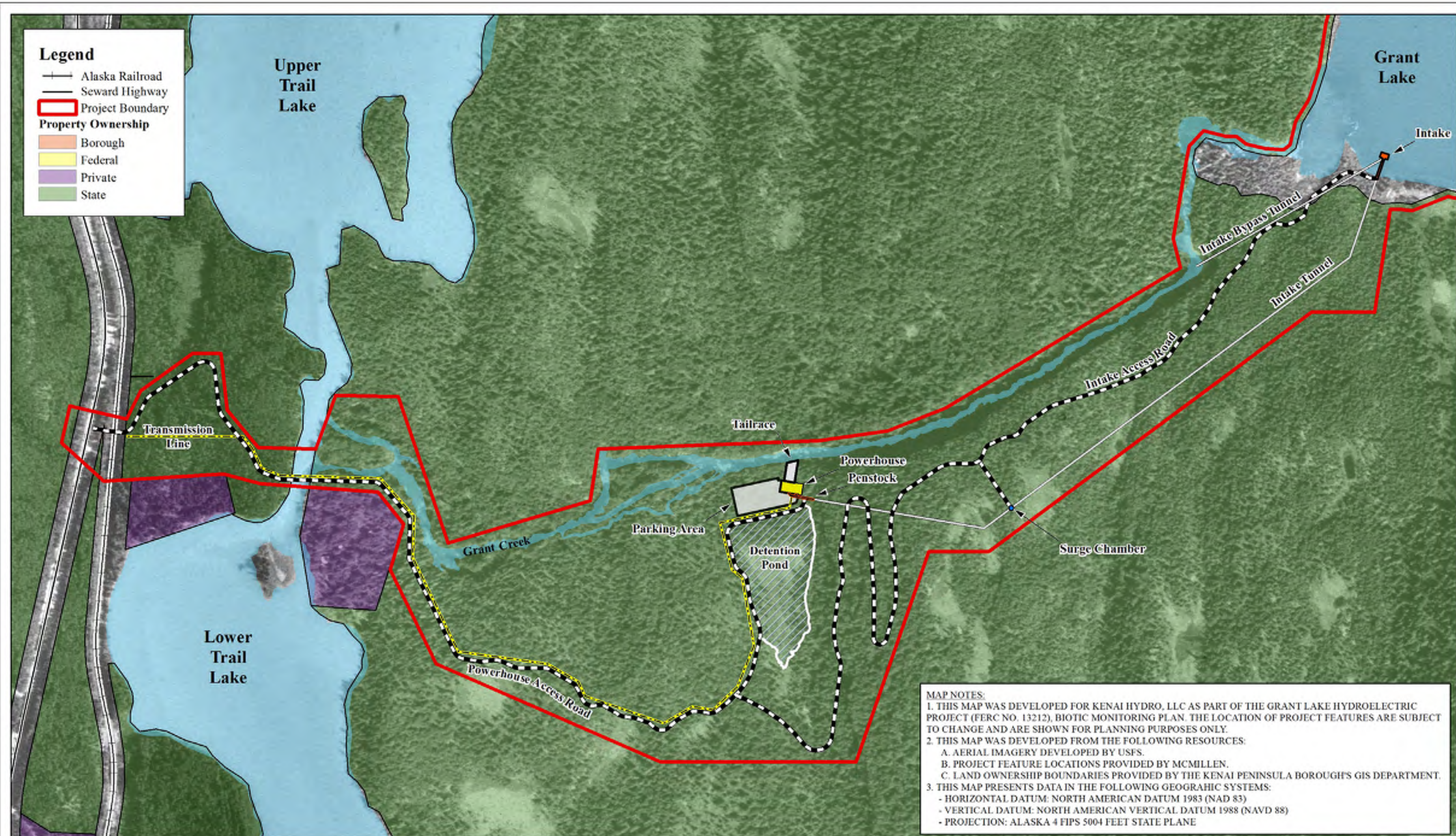
DRAWN: Jake Woodbury

CHECKED: C. Wainock

ISSUED DATE: 4/29/2015

DRAWING

SCALE: 1:35,000



REV	DATE	BY	DESCRIPTION



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GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO.13212

BIOTIC MONITORING PLAN

Figure 2
General Project Features And Facilities

DESIGNED: Mike Woodbury

DRAWN: Mike Woodbury

CHECKED: C. Wainock

ISSUED DATE: 4/29/2015

SCALE: 1:5,000

1.2.3. Tunnel and Surge Chamber

The intake structure would connect to a tunnel extending to the Project powerhouse. The tunnel would be approximately 3,300 feet long with a 10-foot-horseshoe shape. Drill and shoot techniques would be used to construct the tunnel using an entrance portal at the powerhouse for access. The lower 900 feet of tunnel would be constructed at a 15 percent slope. This section of the tunnel will be concrete lined. The upper 2,400 feet of tunnel would be constructed at a 1 percent slope and would be unlined. This proposed arrangement provides a low pressure hydraulic conduit in the upper tunnel reaches suitable for an unlined tunnel. A surge chamber is located at the transition between the two tunnel slopes. This chamber is approximately 10 feet in diameter and would extend from the tunnel invert elevation of 670 feet NAVD 88 to the ground surface at approximately elevation 790 feet NAVD 88. The surge chamber provides a non-mechanical relief for hydraulic transients that could occur if a load rejection occurs at the powerhouse. Rock anchors and shotcrete stabilization techniques would be used to stabilize the tunnel exposed rock surface where required. A rock trap would be located at the surge chamber location to collect dislodged rocks from the unlined tunnel section.

The tunnel would transition to a 6-foot diameter steel penstock approximately 150 feet from the powerhouse. The transition section would consist of a welded-steel concentric structure which transitions from the 10-foot tunnel section to the 72-inch diameter penstock. A steel liner would extend from the downstream tunnel portal approximately 300 feet into the tunnel. The liner would be installed within the exposed rock surface with grout pumped behind the liner to provide an impermeable and structurally-sound tunnel section. A similar steel tunnel liner section would be installed at the connection to the intake structure for a total distance of approximately 150 feet.

1.2.4. Penstock and Surge Tank

A 72-inch diameter steel penstock extends 150 feet from the downstream tunnel portal to the powerhouse. The welded steel penstock would be supported on concrete pipe saddles along the penstock route. The penstock would bifurcate into two 48-inch diameter pipes feeding each of the powerhouse turbines. The penstock, fitted with welded steel thrust rings, would be encased in concrete thrust blocks at the tunnel portal as well as the powerhouse. These thrust blocks would be designed to resist the full hydraulic load associated with the Project operation. An interior and exterior coating system would be applied to the penstock providing full corrosion protection. An access manway would be provided on the exposed penstock section allowing access for future inspection and maintenance.

1.2.5. Tailrace

The powerhouse draft tubes would connect to a tailrace channel located on the north side of the powerhouse structure. The draft tubes would extend from a low point elevation of approximately 509 feet NAVD 88 up to the tailrace channel invert elevation of 515 feet NAVD 88. The channel would continue to the east bank of Grant Creek. Each of the draft tubes will be gated, allowing the flow to be routed to the detention pond for spinning reserve operation. Isolation bulkheads would be provided, allowing dewatering of the draft tubes for inspection and maintenance of the turbine. The tailrace channel would be trapezoidal in shape with a bottom

width of 43 feet, side slopes of 2H:1V and a channel depth ranging from 13 feet at the powerhouse to 7 feet at the creek. A concrete structure would be constructed at the confluence of the channel and Grant Creek. A picket-style fish barrier would be placed on this concrete structure, as well as a provision for the installation of stoplogs, allowing the tailrace channel to be dewatered for inspection and maintenance. The channel would be excavated from native material and lined with riprap to provide a long-term, stable section. A staff gage and pressure transducer will be placed in the channel to monitor the water level in the channel.

1.2.6. Tailrace Detention Pond

An off-stream detention pond would be created to provide a storage reservoir for flows generated during the rare instance when the units being used for spinning reserve are needed for the electrical transmission grid. In this situation, the additional powerhouse flows would be diverted into the detention pond and then released slowly back into Grant Creek. It is anticipated that the discharge associated with a spinning reserve event would be dispersed via the tailrace channel which flows into Grant Creek. The detention pond would be located immediately south of the powerhouse and would have a capacity of approximately 15 acre-feet and a surface area of approximately 5 acres.

1.2.7. Powerhouse

The powerhouse would be located on the south bank of Grant Creek immediately west of the downstream tunnel portal and adjacent to the detention pond. The powerhouse would consist of a concrete foundation and a pre-engineered metal building superstructure. The building would be approximately 100 feet long (east to west) and 50 feet wide (north to south). The penstock would tie into the powerhouse on the south side and the tailrace channel on the north side of the building. The building floor would be set at approximately elevation 523 feet NAVD 88 and the centerline of the turbine runner at elevation 526 feet NAVD 88. The draft tube floor would be set at elevation 509 feet NAVD 88 with an operating tailwater inside the draft tubes ranging from 518.0 feet to 519.3 feet NAVD 88.

Two horizontal Francis type turbine/generator units with a rated total capacity of 5,000 kilowatt (kW) would be housed in the powerhouse structure. The powerhouse flow would range from a maximum of 385 cfs to a minimum of 58 cfs, with each turbine operating flow ranging from 192.5 cfs to 58 cfs. Associated mechanical and electrical equipment would include hydraulic power units, turbine isolation valves, penstock drain, utility water system, lube oil system, oil water separator, battery system, and heating, ventilating, and air conditioning (HVAC) system. A control room housing the motor control center, communication rack, fiber optic panels, computers, and related equipment would also be provided. The Project switchgear would be located within the powerhouse. A standby generator, transformer, and fused, pad-mounted switch assembly would be mounted on an enclosed switchyard located on the south side of the powerhouse. Dewatering pumps would be provided to support dewatering of the turbine draft tubes. A 30-ton bridge crane would be provided for equipment maintenance. The crane would travel on rails mounted on the steel building support columns. An energy dissipation valve would extend off the penstock and provide bypass flows into the Project tailrace.

1.2.8. Transmission Line/Switchyard

An overhead 115-kilovolt (kV) transmission line will extend from the powerhouse to the existing 115-kV transmission line located on the east side of the Seward Highway. In addition to overhead transmission structures, the facilities would include a switchyard at the powerhouse consisting of a 115-kV fused, pad-mounted disconnect switch and a pad-mounted 115-kV GSU transformer. The transmission line would run from the powerhouse parallel to the access road, where it would intersect Chugach Electric's transmission line. The interconnection would have a pole-mounted disconnect switch.

Wooden poles would be designed as tangent line structures on about 250-foot centers. Design of the line would also incorporate the latest raptor protection guidelines. Collision avoidance devices would be installed on the line at appropriate locations to protect migratory birds.

1.2.9. Appurtenant Facilities

The following pertinent mechanical and electrical equipment will be applicable to the Project:

- Intake selective withdrawal intake gate
- Intake trashrack system
- Intake roller gate used to isolate the tunnel and downstream generation facilities
- Control gate located on the bypass pipeline pipe
- A 30-ton bridge crane in the powerhouse
- Pumps located in the powerhouse used to dewater the draft tubes
- Pressure transducers located throughout the Project used to monitor the water level in the reservoir, tunnel and tailrace, as well as pressures in the tunnel and penstock
- Security cameras at the intake and powerhouse
- Sanitary waste holding tank at the powerhouse
- A power line extending from the powerhouse to the intake to supply electrical power to the gates and trashrack
- Temperature instrumentation at the intake structure and at various stream locations to monitor water temperature

This equipment, along with other identified miscellaneous mechanical and electrical equipment, will be developed during the final design and included in the construction documents.

1.2.10. Access Roads

The Project would require an access road to both the powerhouse, located near the base of the Grant Creek canyon, and to the intake at Grant Lake. The access road would be used to construct the Project and afterwards, to maintain the facilities. It is anticipated that the powerhouse would be visited approximately once per week and the intake visited approximately once per month, beginning just after the ice melts and continuing until just before freeze up. The powerhouse access road would be maintained year around. The intake access road would not be maintained in winter.

The 24-foot wide access road would tie into the Seward Highway at approximately MP 26.9. The route would travel eastward to cross Trail Lakes at the downstream end of the Narrows between Upper and Lower Trail Lakes and then continue eastward to the powerhouse. This route would be approximately one mile long. It would cross the ARRC tracks near an existing railroad crossing for a private driveway. The road would cross the narrow channel connecting Upper and Lower Trail Lakes with an approximately 110-foot-long single lane bridge. This bridge is proposed as a clear span with the west abutment located on bedrock and the east abutment on fill. The proposed route would avoid cuts and would travel along the base of some small hills on the south side of Grant Creek to the powerhouse. This proposed access road would have one 90-degree crossing of the Iditarod National Historic Trail (INHT).

The intake access road would be approximately one mile long, beginning at the powerhouse. The road would ascend a 230-foot bluff to reach the top of the southern rim of the Grant Creek canyon. A series of road switchbacks would be required to maintain a road grade of less than 8 percent. The road would then generally follow the southern edge of the canyon until it descends to Grant Lake. A small parking area and turn-a-round area would be provided at the intake structure. A 16-foot wide bridge will extend from the bank out to the intake structure.

The road would be gravel with a 16-foot top width. Maximum grade would be 8 percent. Periodic turnouts would be provided to allow construction traffic to pass. Fifty-foot radius curves would be used to more closely contour around the small steep hills of bedrock to limit the extent of the excavation and the height of the embankments.

1.2.11. Project Operations

Once constructed, the Project will operate to generate power throughout the calendar year based on inflow, available storage, lake elevation, and minimum flow requirements with Grant Creek. The lake will operate from the natural Grant Lake outlet elevation of 703 feet NAVD 88 down to a minimum lake elevation of 690 feet NAVD 88. The lake will be drawn down in the winter months utilizing a combination of Grant Creek inflows and stored water to meet the instream flows in the bypass reach (known as Reach 5 or the canyon reach) while also maintaining power production. Water flow predictions will be used to estimate snowpack and the corresponding runoff volume. The Project operation will then be tailored to maximize winter power production while also ensuring the lake refills to elevation 703 feet NAVD 88.

2 INFORMATION AND DATA

2.1. Historical Fisheries Information and Data

Historically, Grant Creek has been the subject of fisheries research of varying degrees of intensity. Periodic minnow trapping on Grant Creek from July 1959 through January 1961 captured juvenile Chinook salmon, coho salmon, Dolly Varden, and sculpin (extent of sampling area unknown; USFWS 1961). Minnow trapping and electrofishing in the lower reaches of Grant Creek for week-long periods in October 1981 and March, May, June, and August 1982 yielded higher catches of trout, salmon, and Dolly Varden in the fall and summer than in winter and spring (Arctic Environmental Information and Data Center [AEIDC] 1983). Catches of

Dolly Varden were generally most abundant in the minnow traps, followed by juvenile Chinook, juvenile rainbow trout, and juvenile coho. Juvenile Chinook were the most commonly caught fish during electrofishing surveys (Ebasco 1984).

Ebasco (1984) estimated that Grant Creek supported 250 Chinook and 1,650 sockeye spawners. The stream was also estimated to support 209 8-inch “trout” (including Dolly Varden and rainbow trout; Ebasco 1984). Spawning coho were not observed, but had been recorded as being present at unknown levels in the stream by the Anadromous Waters Catalog (AWC) published by the Alaska Department of Fish & Game (ADF&G; Johnson and Klein 2009). Maximum counts from intermittent stream surveys by the ADF&G were 76 Chinook (1963) and 324 (1952) sockeye salmon.

In 2009 KHL conducted a baseline aquatic resources study program to assist in the development of study plans associated with the FERC licensing effort. Based on these results, and after collaboration with stakeholders, KHL developed an initial set of study plans and embarked upon a 2010 natural resources study season to implement these initial studies. However, after further stakeholder collaboration, the program was discontinued in July 2010 in order to further revise the study plans and make them more quantitative in nature. The results of the baseline aquatics study, and the initial aquatics study plan work conducted in early 2010 yielded the following results.

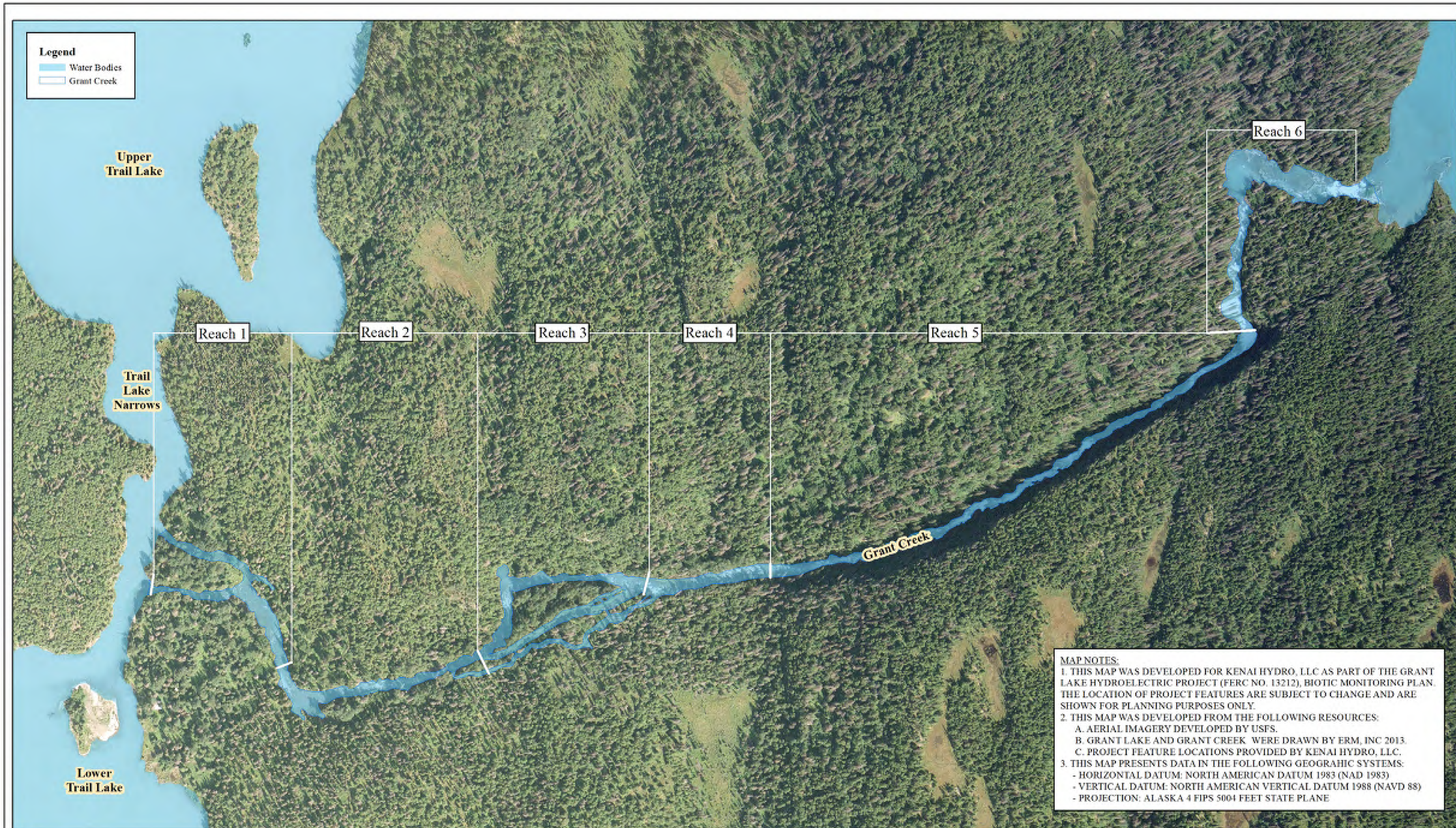
Consistent with studies conducted by AEIDC (1983), Grant Creek was divided into study Reaches 1 through 6 (Figure 3). Relative abundance and distribution of juvenile fish were determined by minnow trapping and calculating the catch-per-unit-effort (CPUE) for each reach. Dolly Varden were found to be the most abundant species in Grant Creek; they were distributed throughout Grant Creek Reaches 1 through 5, although they had a greater relative abundance in Reaches 4 and 5. Coho salmon was the next most abundant species, and individuals were distributed throughout Reaches 1 through 5. Coho, however, appeared to have the greatest relative abundance in Reach 1. Chinook salmon was the next most abundant species. There was a noticeable decrease in Chinook abundance in upstream reaches, and they were not caught above Reach 4. Other fish present in small numbers were sockeye salmon, rainbow trout, sculpin, and three-spine stickleback. Most salmon captured were young-of-the-year with few larger juveniles present (KHL 2010).

Relative abundance of adult rainbow trout and Dolly Varden was determined by calculation of angling CPUE (KHL 2010). Rainbow trout ($n = 68$) were found to be more abundant than Dolly Varden ($n = 9$) and were caught throughout the creek, although their relative abundance was higher in Reaches 3 through 5 than in Reaches 1 and 2. Dolly Varden were captured in Reaches 1, 2, and 3; their relative abundance was highest in Reach 1. Capture success was too low to allow population estimates with mark-recapture techniques. Adult rainbow trout were observed in the upper portions of the canyon reach.

This study was also aimed at determining the timing of resident fish spawning; however, it appeared that spawning, if present, occurred before or after the 2009 study period, since little evidence of spawning resident fish was observed (KHL 2010). Rainbow trout angling studies were continued in the spring and early summer of 2010 to confirm the presence of spawning and

determine fish numbers. The progression of reproductive condition and the presence of adult rainbow trout in spawning condition confirmed that spawning did occur in Grant Creek in 2010.

Abundance and run timing of spawning anadromous fish was estimated through data collected during visual surveys (KHL 2010). Both adult sockeye and Chinook salmon were seen in the lower five reaches. Chinook salmon entered Grant Creek first around the beginning of August. Sockeye salmon did not arrive until the end of August. Escapement of Chinook salmon was estimated to be 231 fish, and escapement of sockeye salmon was estimated at 6,293; these estimates were based on the area-under-the-curve (AUC) methodology (Bue et al. 1998). Two critical components necessary to calculate abundance using the AUC methodology (stream life and observer efficiency), however, were based on professional judgment rather than empirical data, potentially biasing estimates.



REV	DATE	BY	DESCRIPTION



McMILLEN, LLC

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Developed For:

HEA Homer Electric Association, Inc.

A Touchstone Energy® Cooperative

GRANT LAKE HYDROELECTRIC PROJECT - FERC PROJECT NO. 13212

BIOTIC MONITORING PLAN

Figure 3
Grant Creek Reaches

DESIGNED: J. Woodbury

DRAWN: J. Woodbury

CHECKED: C. Wamock

ISSUED DATE: 4/29/2015

SCALE: 1:4,000

2.2. Summary of the 2013 Fisheries Research

After additional collaboration with stakeholders and significant, quantitative modifications to the methodology, the revised and comprehensive Aquatic Resources Study Plan was implemented in 2013 (KHL 2014a). The objectives of the study were to describe the run timing, abundance, distribution and spawning locations of adult anadromous salmonids. Additional information was also collected to describe the abundance and distribution (both spawning and feeding) of adult rainbow trout and Dolly Varden. Information was also collected to estimate the abundance and distribution of juvenile fish and to describe fish use of the Trail Lake Narrows downstream of the Grant Creek confluence.

The key species of adult salmon returning to Grant Creek included pink, Chinook, sockeye and coho salmon. Sockeye salmon were the dominant run entering Grant Creek with 1,117 fish counted above the weir; in addition, there were 10 pink, 23 Chinook and 237 coho salmon.

The run timing of adult salmon into Grant Creek occurred from the end of July and extended over a 13-week period to near the end of October. Pink salmon passed the weir on Grant Creek first, followed by Chinook, then sockeye, and finally coho.

The salmon spawning period in Grant Creek also extended over 13 weeks from the first week of August to the end of October. Pink salmon began spawning in early August; Chinook in mid-August; sockeye at the end of August, and coho began spawning the first week of October and were finished at the end of the month. The sensitive time period for adult salmon, based on spawning, was from the first week of August to the end of October.

The majority (95 percent) of critical spawning habitat was concentrated within Reaches 1-3 of Grant Creek. Spawning activity in Reach 4 was fairly low at 4 percent, and spawning in Reach 5 was about 1 percent of the total observed. The higher gradient habitat (cascades) of Reach 5 reduces the availability of suitable substrates and velocities for spawning salmon.

Rainbow trout and Dolly Varden were identified as key resident species migrating into Grant Creek. The period of migration for rainbow trout lasted 6 weeks, from the end of May to the end of June. The migration period for Dolly Varden lasted 4 weeks, from mid-August to mid-September. During the 2013 study period, no redds were observed for either rainbow trout or Dolly Varden; high flows and poor water clarity hampered survey efforts. While no redds were detected, recently-emerged fry were observed, confirming that both species spawn within Grant Creek; to what extent, however, is unknown. Radio telemetry detections of tagged rainbow trout suggest that it is possible that rainbow trout spawned in Reach 3; however, it should be noted that observations of radio-tagged rainbow in Reach 3 may well have been due to tagged fish taking advantage of feeding opportunities at those locations. The majority of radio tagged fish resided in Reaches 1 and 3 during the study period, suggesting that spawning and feeding locations are most likely in these reaches.

There was a total of 4,798 Chinook, 3,165 coho and 46,431 Dolly Varden juveniles estimated to have migrated out of Grant Creek in 2013. These estimates represent Reaches 1-5 upstream of the lower incline plane trap and only includes parr-sized fish. For juvenile Chinook, emigration from Grant Creek peaked in mid-to-late August and again in September. A smaller peak

occurred in May as age-1 juvenile fish emigrated from Grant Creek. Juvenile emigration for coho also peaked in mid-to-late August and in mid-to-late July. Juvenile emigration for Dolly Varden peaked in July and again in late August-early September.

Reach 5 of Grant Creek provides some juvenile rearing habitat but it is low in comparison to Reaches 1-4. The predominance of higher-gradient cascade habitat in Reach 5 (average gradient of 6.4 percent) reduces the amount of juvenile habitat. Reaches 1-4 provide the majority of juvenile rearing habitat in Grant Creek. Minnow trapping from April through October captured 3,468 fish. Relative abundance of fish caught in minnow traps, expressed as both CPUE and proportion of total catch, was highest in Reach 3, followed by Reach 1, Reach 2 and then Reach 4. Reach 3 contained the greatest diversity of habitats, with pools and riffles represented in many areas (side channels, backwater areas and mainstem).

Adult salmon, rainbow trout and Dolly Varden occur in the Trail Lakes Narrows area. The Trail Lake Narrows area is an upstream migration corridor for fish destined to spawn in Grant Creek and all other tributaries of Upper Trail Lake. Likewise, this area is also a downstream migration corridor for salmonid production upstream. Dolly Varden and rainbow trout probably reside in the area, taking advantage of juvenile salmon that migrate through or reside in this area. This area may also provide spawning and resting areas for adult salmon. Redds in suitable spawning gravels and sockeye carcasses were found that had not been sampled. Chinook and coho salmon may spawn in this area as well.

2.3. Summary of Projected Project Impacts

As part of the assessment of potential project impacts to fish and fish habitat, KHL conducted aquatic habitat mapping and instream flow studies on Grant Creek. Previous Instream Flow studies had been conducted in Grant Creek; an Instream Flow Study was completed in 1987 as part of a preliminary FERC license application prepared by Kenai Hydro, Inc. (KHI; not related to the current Kenai Hydro, LLC; EnviroSphere 1987, KHI 1987a, and KHI 1987b).

As mentioned above, KHL initiated consultation for a collaborative process for a study of “instream flow” effects in Grant Creek in 2009 (KHL 2010). The primary goal of the 2009 Instream Flow Study program was to establish a Technical Working Group (TWG) consisting of state and federal resource agency staff, KHL staff, and interested members of the local community. Once established, the TWG met three times during the 2009 study season to review the results of the 2009 aquatic baseline study efforts, discuss and agree upon an acceptable instream flow evaluation method, and request additional information to support that selection (KHL 2010). A technical memorandum was drafted and shared with the Instream Flow TWG participants in 2009, detailing the results of the previous Instream Flow Study efforts (HDR 2009). Physical stream data required for instream flow modeling, per the proposed approach, were collected at 18 transects during low- and mid-flow conditions in 2010. The studies were continued in 2010, but the program was discontinued in July, 2010 after further stakeholder collaboration in order to revise the study plans and make them more quantitative in nature. When the aquatic habitat mapping and Instream Flow studies were re-initiated in 2013, these data were used where applicable.

In the 2013 investigations, habitat was mapped throughout the lower five reaches of Grant Creek, while the Instream Flow study concentrated on the lower four reaches of Grant Creek, including the side channels and the tributary in Reach 1. Grant Creek habitat (as measured by Weighted Usable Area) for 15 stages (based on species and life history) was modeled for flows ranging from 5 – 1,000 cfs. Modeled species and life history stages were for Chinook salmon (spawning, fry and juvenile rearing), Coho salmon (spawning, fry and juvenile rearing), sockeye salmon (spawning), rainbow trout (spawning, fry, juvenile and adult rearing), and Dolly Varden (spawning, fry, juvenile and adult rearing).

In order to give a better long-term representation of the Grant Creek streamflows, a record extension was developed. A correlation between the Grant Creek U.S. Geological Survey (USGS) gage (station 15246000) and the Kenai River at Cooper Landing USGS gage (station 15258000) provided a means to extend the streamflow record at the Grant Creek gage location. With that data extension, KHL developed a 66-year composite record of Grant Creek hydrology, both with and without the project. In general, Grant Creek flows from January through mid-May and the November through December period are proposed to be higher with-Project than they are currently pre-Project. Flows during the summer will be reduced, while the late spring and fall flows will be the same.

At the request of the Instream Flow Subgroup, KHL conducted further analyses to evaluate the effects of the Project flows on eggs deposited by resident and anadromous salmonids in suitable Grant Creek spawning habitat (effective spawning analysis), as well as habitat for all species and life history stages (habitat duration analysis).

KHL conducted the effective spawning analysis for the five species mentioned above, for all transects where spawning habitat existed. With the proposed increased flows in November through mid-May, incubating salmonid eggs will be afforded higher rates of protection with the Project in place than under the pre-Project regime. As a result, incubation will not be significantly affected by the Project.

As part of the habitat duration analysis, KHL modeled habitat for each species and life history stage for the five target species (Chinook, coho, and sockeye salmon, rainbow trout and Dolly Varden) for the 66-year composite record. The findings of that analysis are summarized below in Table 1.

Table 1. Results of the Grant Creek habitat time series analysis (KHL 2014b), which depicts the post-Project weighted usable area (WUA) relative to the pre-Project conditions for anadromous and resident salmonids by life stage.

Species	Spawning (%)	Fry Rearing (%)	Juvenile Rearing (%)	Adult Rearing (%)
Chinook	99.5	96.9	100.2	---
Coho	100.0	99.0	99.2	---
Sockeye	99.0	---	---	---
Dolly Varden	100.3	98.9	102.9	96.5
Rainbow Trout	98.7	101.4	99.3	94.2

Overall, with-Project WUA is nearly identical to pre-Project WUA, at 99.8 percent. The lowest with-Project WUA is for Dolly Varden and Rainbow trout adult rearing. Adult rearing periodicity for these species extends from mid-May to the end of November. Project flows are reduced during the summer (June – August), which is the reason for lower adult rearing with-Project WUA during this period. It is important to note that this analysis does not take into consideration potential mitigation and enhancement measures for the Project. Section 4 discusses our proposed aquatic mitigation and enhancement measures and associated analyses in detail that will provide additional increases to WUA beyond the existing condition described above.

In addition, increased winter flows will also provide more rearing habitat in the Reach 2/3 side channels. These side channels, as well as the Reach 1 distributary, provide a large percentage of the rearing habitat in lower Grant Creek. Monitoring will be conducted to evaluate the increased rearing potential in these areas.

Potential negative Project impacts include reduced flows in Reach 5, with concomitant reductions in spawning habitat; reduced flows to mobilize sediment recruited from Reach 5, and reduced resident adult rearing during the summer months. Potential positive impacts from the Project in Reach 5 include better maintenance of juvenile rearing habitat along with the likelihood of increased juvenile rearing habitat availability in addition to higher/more stable flows in the quality reaches (i.e., Reaches 1 – 4) during incubation and rearing; decreased summer flows will maintain habitat and help prevent stranding and potential egg desiccation as flows decrease, and operational changes will allow for high quality side channels to be more consistently wetted.

3 BIOTIC MONITORING DURING CONSTRUCTION

The comprehensive studies conducted during the licensing process highlight sensitive areas utilized by both adult and juvenile salmonids. That research also provides a solid baseline of information on the current status of fish populations within Grant Creek. Coupled with this knowledge, KHL will conduct additional monitoring of Grant Creek aquatic resources during the construction phase of the Project to ensure that construction activities do not result in deleterious impacts to Grant Creek fish habitat or fish populations. Biotic monitoring during construction will provide information on an annual basis to assist in assessing whether changes have occurred to fish communities in Grant Creek.

3.1. Potential Project-related impacts on fish during construction

Construction activities include tunnel blasting, construction of roads, and the construction of the Project infrastructure discussed in Section 1.2. Potential construction-related effects of the Grant Lake Project include:

- 1) Habitat alteration by sedimentation or erosion during the construction of the Project infrastructure (i.e., penstock, powerhouse, tailrace, detention pond and roads), and

- 2) Accidental release of contaminants into Grant Creek during the construction of the facilities.

As a result of the potential alterations highlighted above, there may be impacts to the fish community within Grant Creek, which could include:

- Potential displacement of juvenile salmonids from critical rearing habitat, and
- Potential displacement of spawning adults due to construction activities.

3.2. Goals

A series of biotic monitoring measures are proposed in order to identify changes, if any, to the presence/absence of fish populations in Grant Creek during construction activities related to building the Project infrastructure. Fish monitoring will be used to determine continued use of Grant Creek through fisheries investigations outlined below.

3.3. Objectives

The objectives include:

- Determine if construction activities displace juvenile salmonids from critical rearing habitat, and
- Determine if construction actions disrupt either the distribution or timing of adult salmonids in Grant Creek.

A series of best management practices (BMP) and construction associated plans will be developed in advance of any construction activities to ensure that environmental impacts are avoided. These plans will account for water quality conditions, amongst other variables. In addition, an Environmental Compliance Monitor (ECM) will be on-site daily during all construction activities. This individual will be responsible for assessing water quality conditions during construction and notifying appropriate parties, if necessary.

3.4. Fisheries Research Methodologies

Monitoring activities will be broken down into two primary components: the sampling of juvenile salmonids, and the sampling of adult salmonids.

3.4.1. Juvenile Salmonid Investigations

In order to evaluate if construction activities displace or alter the distribution of juvenile salmonids from critical habitats, KHL proposes the following investigation:

Minnow traps will be deployed twice each construction year (likely in early June and early August), with typically 10 traps deployed per reach; sampling will include the mainstem, the tributary in Reach 1, and the side channels in Reach 2/3. The exception may be within Reach 5 due to limited access; however, the lower third of Reach 5 will be sampled with 5 to 6 traps if possible, and efforts will be made to sample upper Reach 5 downstream of the lower most waterfall (dependent upon flows which may limit access due to safety). Within each reach, an

effort will be made to sample all habitat types during the sample period. Traps will be baited with a 16.4 cm³ mass of sterilized salmon eggs and will be fished for approximately 24 hours. Captured fish will be anesthetized in a solution of clove oil (6 drops per 3.8 liters of water), and all salmonid juveniles will be enumerated by species, and will then be weighed and measured (fork length) to the nearest 0.1 gram and millimeter, respectively. Fish will then be recovered in fresh river water and released near the area of capture. Catch for each trap will be converted into CPUE (number of fish per hour) by species, which will be compared to data collected during the 2009 and 2013 studies. Data will be compiled by species, month, reach, and channel type (i.e., mainstem, backwater, or side-channels).

3.4.2. Adult Salmonid Investigations

Adult sampling will consist of three primary components: visual, redd, and carcass surveys. All three surveys will be conducted twice for each species within each of the two construction years, and will be conducted on separate days within the sample week. Sample timing will be based on 2013 data, and will be conducted to coincide with the documented peak run-timing for each species.

Visual and redd surveys will be conducted as in 2013. Biologists will hike upstream along each bank of Grant Creek wearing polarized sunglasses to reduce glare, and will document adult fish and redds (by species). Visual observations will be documented on maps, which will later be cataloged into a GIS database. As in 2013, the biologists will utilize hand-held radios to coordinate observations to maximize efficiency and to reduce the potential for double counting.

Carcass surveys will be dedicated to the search and collection of spawned out salmon; however, any carcasses found during other surveys will be sampled as opportunity presents itself. All recovered salmon carcasses will be identified as to species and sex, and length (post-orbital hypural [POH]) will be recorded to the nearest centimeter. Additionally, all females will be inspected as to spawning success (i.e., pre-spawn mortality, completely spawned, the number of remaining eggs).

Visual and redd surveys will provide information as to the presence/absence of adult fish and redds relative to historical peaks, which can be compared to 2013 data; carcass surveys will provide an indication of spawning success relative to 2013 observations.

3.5. Schedule

The construction of the Project is expected to take two years to complete. The first summer construction period will be used to install Project roads (e.g., the access bridge across the Trail Lake Narrows and the access road to the powerhouse and intake sites). During the winter period, the tunnel will be bored, and the second summer construction period will be used to complete the remaining structures. This Plan will coincide with all construction activities; that is, juvenile and adult sampling will occur during both years of construction, or as long as construction activities occur.

One juvenile minnow trapping survey will occur in early June, and the other will take place in early August. Actual dates of minnow trapping will vary due to a variety of factors, weather and streamflow conditions being the most likely variables.

Adult surveys, including visual, redd and carcass surveys will coincide with existing data documenting peak run timing for anadromous species in Grant Creek. Two surveys per species will occur; it is anticipated that surveys for sockeye would occur in late August/early September, late August/early September for Chinook and early to mid-October for coho.

4 BIOTIC MONITORING DURING PROJECT OPERATION

As summarized in Section 2.3, it is anticipated that the operation of the Project will have minimal impact on the Weighted Usable Area for all life stages of all salmonids utilizing Grant Creek. Similarly, the loss of spawning habitat is anticipated to be minimal. These projections, however, are based on model simulations, and as such, must be verified through monitoring and empirical data.

4.1. Potential Project-related effects on fish from Project Operations

Once constructed, the expectation is that the operation of the Project will result in:

- 1) Decreased flows in Reach 5 throughout the year;
- 2) Decreased sediment recruitment from Reach 5 due to these decreased flows;
- 3) Increased winter flows;
- 4) Decreased summer flows, and
- 5) Potential water temperature changes (addressed in the Operation Compliance Monitoring Plan, [OCMP; KHL 2015b]).

Based on the anticipated alterations to Grant Creek due to the operation of the Project, a number of potential biological responses may occur, which include:

- Decreased fish utilization in Reach 5 (both juvenile and adult salmonids) due to decreased year-round flows;
- Potential increase in juvenile rearing habitat availability in Reach 5;
- Potential alteration in spawning locations, or an overall decrease in spawning within Grant Creek due to the long-term decline in suitable spawning substrates;
- Increased rearing habitat within the Reach 2/3 side channels due to increased winter flows; and
- Decreased summer rearing habitat for adult resident fish within the mainstem sections of Reaches 1-4.

4.2. Goals

This section of the Plan is being developed in order to identify changes, if any, to the presence/absence of fish populations in Grant Creek during Project operations. Fish monitoring

will be used to determine continued use of Grant Creek through fisheries investigations outlined below.

4.3. Objectives

The objectives include:

- Determine if greater flows in the Reach 2/3 side channels during the winter result in juvenile rearing during this timeframe and at these locations;
- Determine if mitigation efforts in the Reach 1 distributary result in increased juvenile utilization;
- Determine if relative juvenile abundance and distribution deviates from baseline conditions due to Project operations, and
- Determine if adult distribution deviates from baseline conditions due to project operations.

4.4. Fisheries Research Methodologies

Post-construction monitoring will consist of both juvenile and adult monitoring components. For juveniles, minnow trapping and winter-time snorkeling will be used. For adults, visual, redd and carcass surveys will be used.

4.4.1. Juvenile Salmonid Methodologies

The minnow trapping methodology utilized for the construction phase will be replicated for the operations phase. Specifically, minnow traps will be deployed during the months of July through October, and in April (winter water temperature conditions). Supplemental sampling during the months of August through October will coincide with periodic sampling of adults, and can be accomplished concurrently to streamline sampling activities. Data collected will provide information on juvenile distribution and relative abundance that can be compared to 2013 baseline information (CPUE). Sampling will be conducted in years 2 and 5 of operations.

Typically, 10 traps per reach will be deployed and will include the mainstem, the distributary in Reach 1, and the side channels in Reach 2/3. The intent will be to sample as much of Reach 5 as possible, including the upper section downstream of the lower most waterfall; as a result of reduced flows within Reach 5 year-round, access to Reach 5 should be greatly improved, allowing greater sampling opportunities.

Within each reach, an effort will be made to sample all habitat types during the sample period. Traps will be baited with a 16.4 cm³ mass of sterilized salmon eggs and will be fished for approximately 24 hours. Captured fish will be anesthetized in a solution of clove oil (6 drops per 3.8 liters of water), and all salmonid juveniles will be enumerated by species, and will then be weighed and measured (fork length) to the nearest 0.1 gram and millimeter, respectively. Fish will then be recovered in fresh river water and released near the area of capture. Catch for each trap will be converted into CPUE by species, which will be compared to data collected during the 2009 and 2013 studies, as well as additional data collected as part of the Plan. Data will be compiled by species, month, reach, and channel type (i.e., mainstem, backwater, or side-

channels). Minnow trap data will address the issues of whether operations influence the relative abundance and distribution of juvenile salmonids with Reaches 1-5 and the side channels and distributaries of Grant Creek, as well as winter-time usage of the Reach 1 distributary and the Reach 2/3 side channels.

Concurrent with April minnow trapping, snorkel surveys will be conducted in the side channels of Reach 2/3 and the Reach 1 distributary. Given the cold water temperatures during April that mimic winter conditions and based upon 2013 surveys, KHL's observations indicate minnow trapping is less effective due to the lethargy of juveniles in these conditions. All salmonids observed will be categorized by species and length (an estimate of total length partitioned into 20-millimeter [mm] bins), and an estimate of fish density (number of fish per 100 m²) will be calculated for habitat and channel types. Snorkel results will address the issue of whether increased winter flows provide new winter rearing habitat in the Reach 1 distributary and the Reach 2/3 side channels, and if so, to what extent.

4.4.2. Adult Salmonid Methodologies

Sampling methods described above for the construction phase of monitoring in Section 3 will also be employed for the Project operation period. Adult sampling will consist of three primary components: visual, redd, and carcass surveys. All three surveys will be conducted twice per species throughout the spawning period, coinciding with peak run timing per existing data. The surveys will be spaced a week apart. Surveys will occur in years 2 and 5 of operations.

For visual and redd surveys, biologists will hike upstream along each bank of Grant Creek wearing polarized sunglasses to reduce glare, and will document adult fish and redds (by species). Observations will be documented on maps, which will later be cataloged into a GIS database. As in 2013, the biologists will utilize hand-held radios to coordinate observations to maximize efficiency and to reduce the potential for double counting. Carcass surveys will be conducted in conjunction with the visual and redd counts.

All recovered salmon carcasses will be identified as to species and sex, and length (mid-eye to fork; POH) will be recorded to the nearest centimeter. Additionally, all females will be inspected as to spawning success (i.e., pre-spawn mortality, completely spawned, the number of remaining eggs).

Visual and redd surveys will provide information as to the relative distribution of adult fish and redds (by reach), which can be compared to 2009 and 2013 data. The collection of salmon carcasses and an assessment of pre-spawning mortality (compared to 2013) will provide a sense of overall spawning success.

Sockeye populations are known to vary from year to year; as such, natural variation is to be anticipated to occur between years. KHL proposes, in addition to conducting counts in Grant Creek, to monitor other fish runs to the Kenai River. Fish numbers may be available for other systems on the Kenai Peninsula, notably the Russian and Kasilof rivers. By comparing fish abundance to other systems in the Kenai, Grant Creek adult numbers can be indexed to determine if the trends found in Grant Creek are similar to other rivers, or if potential perturbations may be the cause of variance in Grant Creek populations.

One such source is ADF&G for numbers and timing of sockeye to the Kenai River:

<https://www.adfg.alaska.gov/sf/FishCounts/index.cfm?ADFG=main.displayResults&COUNTLOCATIONID=40&SpeciesID=420>

Adult salmonid numbers will be compared to the Kenai River and reference streams, where available. These analyses will be used to monitor trends in overall Kenai River salmon populations to determine if any changes in Grant Creek populations may be due to overall natural variation and cycles of fish on the Kenai River, or if Project operations could be a factor influencing these populations.

4.5. Schedule

A suite of monitoring activities will take place in years 2 and 5 following construction of the Project; specifically, juvenile minnow trapping and adult visual, redd, and carcass surveys, along with snorkel surveys.

As discussed above, minnow trapping will be conducted during the months of July through October, and in April with one sample event per month lasting approximately three days. Snorkel surveys will also be conducted in April, and will coincide with minnow trapping activities.

Adult surveys (i.e., visual, redd and carcass) will be conducted during years 2 and 5 of operations and coincide with the peak run timing window for each anadromous species. Two surveys per species will be conducted per year spaced a week apart. It is anticipated that surveys for sockeye would occur in late August/early September, late August/early September for Chinook and mid to late October for coho.

The schedule for meetings with the stakeholders is provided in Section 6.

5 BIOLOGICAL MONITORING FOR ENHANCEMENT/MITIGATION MEASURES

In addition to monitoring construction activities and Project operations, KHL will evaluate the effectiveness of proposed protection, mitigation and enhancement (PM&E) measures listed below. This section provides goals, objectives, and methodologies for evaluating these measures.

5.1. Proposed Protection, Mitigation and Enhancement

A suite of PM&E measures have been proposed for the Project. These measures include, but are not limited to the following:

- Enhancement of Reach 2/3 Side Channels. KHL has proposed more consistent flows and winter-time inundation of these side channels as a result of Project operations. The proposed operational flows will increase aquatic habitat in these side channels.
- Additional Flow in the Reach 1 Distributary. This measure, proposed by KHL, would remove the upstream control, providing greater and more consistent flows in this distributary, increasing both rearing and spawning habitat.

- Spawning Gravel Augmentation/Flushing Flows. Spawning substrate is naturally limited within Grant Creek. This PM&E measure, proposed by KHL, would evaluate the need for gravel supplementation within the mainstem of Grant Creek, and/or periodic need for channel maintenance (i.e., flushing) flows to move upstream sediment.
- Spawning Gravel Augmentation within the Reach 1 Distributary. To create spawning habitat within the Reach 1 distributary, gravel augmentation, in addition to enhanced flows due to the upstream control removal, will be implemented at this location.

5.2. Goals and Objectives

5.2.1. Goals

This component of the Plan is intended to evaluate the efficacy of PM&E measures proposed to enhance fish populations and habitat within Grant Creek. Fish and aquatic habitat monitoring, as described below, will be used to monitor changes to enhanced or mitigate resources. Specific goals include:

- Increase rearing habitat for juvenile salmonids in the Reach 1 distributary and Reach 2/3 side channels;
- Increase spawning habitat for adult salmonids in the Reach 1 distributary and Reach 2/3 side channels;
- Evaluate impacts on suitable spawning substrate in the Grant Creek mainstem associated with Project operations;
- Increase suitable spawning substrate in the Reach 1 distributary; and
- Maintain minimum instream flows of 5 to 10 cfs in Reach 5.

5.2.2. Objectives

The objectives include:

- Determine if greater flows in the Reach 2/3 side channels during the winter increase juvenile salmonid numbers in these side channels;
- Determine if increased flows in the Reach 1 distributary (throughout the year) results in increased juvenile and adult utilization;
- Determine if enough gravel recruitment consistent with prior natural conditions is occurring under operational conditions to promote the increased salmonid spawning activity and utilization intended by permitting consistent access to these areas;
- Determine if gravel placement in the Reach 1 distributary results in increased salmonid spawning activity and utilization; and
- Determine if Project operations is negatively impacting gravel recruitment relative to natural conditions in the Grant Creek mainstem.

5.3. PM&E Methodologies

PM&E monitoring will consist of juvenile and adult salmonid monitoring as well as aquatic habitat monitoring in reaches where mitigation or enhancement measures will take place. For juveniles, snorkel surveys and minnow trapping will be used in the Reach 1 distributary and the Reach 2/3 side channels. For adults, visual surveys of spawners, redds, and carcasses will be conducted at those locations as well. KHL will quantify salmonid spawning gravels within the Grant Creek mainstem (excluding Reach 5) to assess the need for gravel augmentation.

5.3.1. Juvenile Salmonid Methodologies

Juvenile sampling methodologies will be consistent with the methods described in Section 3.4.1, that is, minnow trapping as well as snorkeling, will be used to gather data on juvenile salmonid distribution and numbers within the Reach 1 distributary and the Reach 2/3 side channels. Minnow trapping will occur synonymous with surveys described above in Section 3.4.1. Ten minnow traps per reach will be baited with a mass of sterilized salmon eggs and will be fished for a 24 hour period in the distributary in Reach 1 and the side channels in Reach 2/3. A single minnow trapping survey will occur in April, with sampling to occur in all habitat types found within these reaches during the sampling period, and catch for each trap will be converted into CPUE. Snorkel surveys will be conducted concurrently to best streamline sample activities.

Estimates of CPUE, with PM&E measures in place will be used to determine if juvenile salmonid populations utilize new winter habitats developed in the Reach 2/3 side channels and within the Reach 1 distributary due to the implementation of mitigation and enhancement measures.

The PM&E juvenile salmonid surveys will be conducted as part of the juvenile surveys described in Sections 3.4.1 and 4.4.1. It is recommended that surveys be conducted during years 2 and 5 after the Project is in operation once PM&E measures have been implemented.

5.3.2. Adult Salmonid Methodologies

Stream surveys (including redd, visual and carcass surveys) will be conducted and will coincide with the peak run timing window for each anadromous species. Two surveys per species will be conducted during years 2 and 5 of operations, and will be spaced a week apart. It is anticipated that surveys for sockeye would occur in late August/early September, late August/early September for Chinook and mid to late October for coho.

Methods will be the same as described in Sections 3.4.2 and 4.4.2. Baseline information for adult salmonid presence will be compared to data from the 2013 surveys.

5.3.3. Gravel Supplementation/Channel Maintenance Methodologies

Grant Creek is a sediment transport-limited fluvial environment. The major source of sediment in the spawning reaches is recruited from rock-fall occurring episodically within Reach 5. The biologically-significant transport of sediment from Reach 5 likely occurs during the higher season storm flow events. As a result, salmonid spawning is opportunistic, and occurs where

suitable substrates are found, with less emphasis on appropriate water depths and velocities. Because of these natural limitations, KHL is proposing to provide channel maintenance flows and gravel supplementation as appropriate, in consultation with the stakeholders.

5.3.3.1. Study Area

The study area is Lower Grant Creek from the Reach 4/5 break downstream to its confluence with the Trail Lakes Narrows (Figure 3).

5.3.3.2. Methods

Methods described below were gleaned from Merz and Setka (2004). These methods, including site selection, gravel amounts, size, etc., timing of restoration measures and channel maintenance flows are preliminary, and are subject to consultation with the stakeholders.

5.3.3.2.1. Site Selection, Gravel Placement, and Schedule

KHL proposes augmentation of gravel at the Reach 1 distributary in lower Grant Creek, and to assess the need for mainstem gravel augmentation in consultation with stakeholders; all gravel used during the implementation of this PM&E measure will be native material mined during the construction of the tunnel that extends from the lake intake structure to the surge chamber. Mainstem gravel may be placed within Grant Creek at the reach 4/5 break, immediately below the tailrace. This site would serve as a gravel recruitment station and allow Project outflow to distribute supplemental gravel downstream into the high quality habitat areas of Grant Creek (reaches 1-4). In lieu of the Reach 4/5 recruitment station, gravel may also be placed manually at select locations within the Reach 1-4 mainstem; this alternative would also be developed in consultation with the stakeholders. In addition to the possible mainstem augmentation, suitable spawning substrate will be manually distributed within the Reach 1 distributary. Gravel (25 – 150 mm) will be placed in the stream or at recruitment stations, per Merz and Setka (2004).

Gravel to be used in this PM&E measure will be acquired in year one of construction, and will be obtained during the boring of the tunnel extending from the lake intake structure to the surge chamber. In year two of construction, gravel augmentation will occur within the Reach 1 distributary and will coincide with construction of the Project infrastructure. Distribution of the material will likely be accomplished utilizing heavy equipment that is on-site, but methods will ultimately be determined in consultation with stakeholders. Actual location of augmentation will be based on pebble counts within the Reach 1 distributary. Augmentation efforts will focus on areas where suitable substrates do not currently exist, and where water depth and velocity are adequate.

The assessment of potential augmentation within the mainstem of Grant Creek (Reaches 1-4) will be based on pebble counts during years 2 and 5, post-construction. At the conclusion of the 5-year period, KHL in consultation with stakeholders, will make a determination on the need for gravel augmentation within the mainstem.

5.3.3.2.2. *Pebble Counts*

As described in Metz and Setka (2004) and Bauer and Burton (1993), pebble counts will be conducted at four randomly-selected, longitudinal transects in each selected site in the Reach 1 distributary. About 100 samples per transect will be taken, both before and after (within 12 months) gravel supplementation has occurred. Measurements will be taken every 0.25 - 0.5 feet (0.08 – 0.15 meters) in the Reach 1 distributary. Per Metz and Setka (2004), substrate from pebble counts will be categorized into 12 size categories: (<8.0, 8.0, 16.0, 22.2, 31.8, 44.5, 63.5, 89.0, 127.0, 177.8, 254.0, and > 254.0 mm).

Sites will also be selected in the Grant Creek mainstem. In the mainstem, measurements will be taken every 0.5 – 1.0 feet (0.15 – 0.3 meters). About 100 samples per transect will be taken, both before and after (within 12 months) of gravel supplementation. These surveys will be conducted in an effort to document both baseline conditions (pre-operation) and operational conditions to document what (if any) alterations related to sediment transport have occurred as a result of Project operations.

5.3.3.2.3. *Adult Surveys*

Visual, redd, and carcass surveys will be conducted within the Grant Creek mainstem, the Reach 1 distributary, and the Reach 2/3 side channels as described in Sections 3.4.2 and 4.4.2. These activities will be an extension of surveys conducted to assess the impacts associated with operations of the Project and take place in years 2 and 5 of operations.

5.4. **Schedule**

Once PM&E measures are in place, KHL proposes to conduct efficacy surveys during years 2 and 5 post-construction. It is important to note that additional collaboration with stakeholders is planned post-license issuance and during construction to fully develop an appropriate plan for any gravel supplementation efforts associated with Grant Creek. At present, KHL anticipates an adaptive management approach. Based upon the operational analysis conducted by KHL, the potential exists for channel maintenance type flows to occur via the natural outlet from Grant Lake during operation that would be sufficient for gravel recruitment from Reach 5. This may occur on a consistent enough periodic timeline to preclude the need for gravel supplementation in the mainstem of Grant Creek. This will need to be determined once operations commence. Thus the need for continued collaboration with stakeholders to determine the appropriate need for and level of analysis related to the effectiveness of the measure.

6 **COMMUNICATIONS**

Provisions in this Plan will be formally adopted and implemented by KHL upon FERC approval of the Plan and after issuance of the FERC license. Requisite stakeholders will be consulted well in advance of construction efforts being implemented to assure a comprehensive and collaborative planning effort for those measures (described above) associated with construction.

All Plan activities in a given year will be documented as part of an annual compliance reporting/meeting process. Every winter, KHL will convene a global meeting with all

stakeholders and FERC to review all management plans and related monitoring efforts associated with construction and subsequent operation of the Project. It is during these annual proceedings when results will be documented, identified issues will be discussed and modifications to plans and/or additional measures will be adopted to ensure that minimal impact to the natural environment is occurring as a result of Project construction and operations. With respect to this Plan, primary topics discussed during the annual compliance reporting/meeting process will include:

- A summary of the actions that KHL implemented during the previous calendar year related to:
 - Juvenile fish species assessments
 - Adult fish species assessments
 - Monitoring of PM&E measures
- A discussion of any substantial differences between the actions provided in this Plan (and subsequent agreements) and the actions that KHL implemented, including explanations for any substantial differences.
- Results of any surveying that occurred during the previous calendar year, conclusions that KHL draws from the monitoring results, and any change to this Plan that KHL proposes based on the monitoring results.
- Stakeholder input with respect to any necessary modifications to the existing plan
- Per Section 5.4 and at the appropriate time, ongoing collaboration associated with the need for gravel supplementation in Grant Creek

Ultimately, the draft Annual Compliance Report will be revised to incorporate stakeholder comments and update modified plans for the following year's natural resource implementation and compliance efforts. The Annual Compliance Report will be filed with FERC by April 1 of each year and copies will be made available to the stakeholders and FERC via the internet.

Additionally, all monitoring efforts during construction activities will be managed by KHL's on-site ECM. This person will be responsible for assuring that all procedural aspects of the natural resource and construction management plans as well as general BMP for construction efforts are being adhered to. This person will be the lead in confirming that all methods and associated data collection activities are occurring as scheduled and all associated data is being entered and reported on appropriately. The ECM will be the primary, on-site contact for both confirmation of appropriate activities with respect to monitoring during construction and the conduit for communicating any issues that may be occurring to insure timely resolution.

7 REFERENCES

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From: Warnock, Cory
Sent: Monday, June 01, 2015 12:11 PM
To: 'Monte Miller'; 'Patricia Berkahn (patricia.berkhahn@alaska.gov)'; 'Joe Klein'; 'Ginny Litchfield (ginny.litchfield@alaska.gov)'; 'Jason Mouw'; 'Begich, Robert N (DFG)'; 'Judy Bittner'; shina.duvall@alaska.gov; carl.reese@alaska.gov; 'Schade, David W (DNR)'; 'Lesli Schick (lesli.schick@alaska.gov)'; 'Robin Swinford'; Thomas, Ryan J (DNR); sfishergoad@aidea.org; Daniel J. Hertrich; david.griffin@alaska.gov; 'pamela.russell@alaska.gov'; jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; 'Gary Fandrei'; keeper@inletkeeper.org; painter@arctic.net; 'Doug Mutter'; phillip_johnson@ios.doi.gov; joe.darnell@sol.doi.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; douglas.johnson@ferc.gov; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'Paul Torgerson (paul@grantlakemining.com)'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; kna@alaska.net; ricky@krsa.com; 'exec@kenaitze.org'; 'Brenda Trefon'; mmueller@kpb.us; ikerdhome@gmail.com; DMahalak@borough.kenai.ak.us; jczarnezi@borough.kenai.ak.us; jmohorci@borough.kenai.ak.us; admin@moosepassalaska.com; 'jan@hydroreform.org'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; info@salamatof.com; johnb@ssraa.org; tbristol@tu.org; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Denise Koopman (denise.koopman@usace.army.mil)'; CEPOA-RD_Kenai@usace.army.mil; rbirk@fs.fed.us; 'Kevin Laves (klaves@fs.fed.us)'; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'jeavis@fs.fed.us'; 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); 'Lynnda Kahn'; socheata_lor@fws.gov; frances_mann@fws.gov; 'Jeffrey Anderson'; 'Phil Brna'; ak_fisheries@fws.gov; 'Brent Goodrum'; 'waterlaw@uci.net'; Katharine Glaser; jjodhner@arctic.net; claireshipton@gmail.com; info@chenega.com; president@eklutna-nsn.gov; 'ntc@niniichiktribe-nsn.gov'; 'Kime, Sherry D -FS'; mike@alaska-energy.com; irene@arctic.net; bearimage.dw@gmail.com; katie.johnson@alaska.gov; jslang11@yahoo.com; pm99588@yahoo.com; peruprairie@hotmail.com; andbacon2@yahoo.com; dyrkss@yahoo.com; jestes@cityofseward.net
Cc: 'Mike Salzetti'; Zubeck, Brad; Janorschke, Brad; 'JGallagher@HomerElectric.com'; Andersen, Emily; McMillen, Morton D.
Subject: RE: Draft Grant Lake Project (P-13212) Biotic Monitoring Plan
Attachments: Grant Creek Biotic Monitoring Plan Draft 06-01-15 FINAL.PDF

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hi all,

Per the commitment in the email below, I am attaching the Biotic Monitoring Plan (BMP) for review which is the final plan we will be distributing concurrent with the DLA review process. Per previous communications, it continues to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27, 2015 which formally began a 90 day review period which will conclude on June 25, 2015. This BMP will also be filed with FERC and placed on the KHL website within the next day or so.

As always, if there are any questions, don't hesitate to let me know.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

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360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory

Sent: Friday, May 15, 2015 3:37 PM

To: 'Monte Miller'; 'Patricia Berkahn (patricia.berkahn@alaska.gov)'; 'Joe Klein'; 'Ginny Litchfield (ginny.litchfield@alaska.gov)'; 'Jason Mouw'; Begich, Robert N (DFG); 'Judy Bittner'; 'shina.duvall@alaska.gov'; 'carl.reese@alaska.gov'; 'Schade, David W (DNR)'; 'Lesli Schick (lesli.schick@alaska.gov)'; 'Robin Swinford'; 'Thomas, Ryan J (DNR)'; 'sfishergoad@aidea.org'; 'Daniel J. Hertrich'; 'david.griffin@alaska.gov'; 'pamela.russell@alaska.gov'; 'jseebach@americanrivers.org'; 'kkeeler@blm.gov'; 'hshepherd@uci.net'; 'jbrune@ciri.com'; 'Gary Fandrei'; 'keeper@inletkeeper.org'; 'painter@arctic.net'; 'Doug Mutter'; 'phillip_johnson@ios.doi.gov'; 'joe.darnell@sol.doi.gov'; 'Ken Hogan'; 'frank.winchell@ferc.gov'; 'douglas.johnson@ferc.gov'; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'Paul Torgerson (paul@grantlakemining.com)'; 'jjh@seward.net'; 'jaffa@eagle.ptialaska.net'; 'kna@alaska.net'; 'ricky@krsa.com'; 'exec@kenaitze.org'; 'Brenda Trefon'; 'mmueller@kpb.us'; 'ikerdhome@gmail.com'; 'DMahalak@borough.kenai.ak.us'; 'jczarnezki@borough.kenai.ak.us'; 'jmohorci@borough.kenai.ak.us'; 'admin@moosepassalaska.com'; 'jan@hydroreform.org'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; 'info@salamatof.com'; 'johnb@ssraa.org'; 'tbristol@tu.org'; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Denise Koopman (denise.koopman@usace.army.mil)'; 'CEPOA-RD_Kenai@usace.army.mil'; 'rbirk@fs.fed.us'; 'Kevin Laves (klaves@fs.fed.us)'; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'jeavis@fs.fed.us'; 'Karen O'Leary'; 'Travis Moseley (tmoseley@fs.fed.us)'; 'Lynnda Kahn'; 'socheata_lor@fws.gov'; 'frances_mann@fws.gov'; 'Jeffrey Anderson'; 'Phil Brna'; 'ak_fisheries@fws.gov'; 'Brent Goodrum'; 'waterlaw@uci.net'; 'Katharine Glaser'; 'jjodhner@arctic.net'; 'claireshipton@gmail.com'; 'info@chenega.com'; 'president@eklutna-nsn.gov'; 'ntc@ninilchiktribe-nsn.gov'; 'Kime, Sherry D -FS'; 'mike@alaska-energy.com'; 'irene@arctic.net'; 'bearimage.dw@gmail.com'; 'katie.johnson@alaska.gov'; 'jslang11@yahoo.com'; 'pm99588@yahoo.com'; 'peruprairie@hotmail.com'; 'andbacon2@yahoo.com'; 'dyrkss@yahoo.com'; 'jestes@cityofseward.net'

Cc: 'Mike Salzetti'; Zubeck, Brad; Janorschke, Brad; 'JGallagher@HomerElectric.com'; Andersen, Emily; McMillen, Morton D.; Warnock, Cory

Subject: Draft Grant Lake Project (P-13212) Management Plans

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

Per KHL's commitment, I am attaching three draft Grant Lake management and monitoring plans (Plans) and a Biological Evaluation (BE) for your review/comment. These Plans and BE are:

- Draft Grant Lake Operation Compliance Monitoring Plan
- Draft Grant Lake Avian Protection Plan
- Draft Grant Lake Vegetation Management Plan (Public Version)
- Draft Grant Lake Biological Evaluation for Plants

Additional documents that have been developed and are being sent to the appropriate entities for review and comment based on either their privileged or content specific nature include:

- Draft Grant Lake Historic Properties Management Plan
- Draft Grant Lake Vegetation Management Plan (Privileged Version)
- Clean Water Act Section 404 Application (Army Corps of Engineers)

In addition to all of the documents mentioned above, a Draft Biotic Monitoring Plan is in the final phases of development and will be distributed for public review and comment shortly. Per previous communications, it continues to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27, 2015 which formally began a 90 day review period which will conclude on June 25, 2015. It is KHL's desire to receive comments from not only the DLA by this date but also the Plans and BE. This will assist in facilitating an efficient comment review and document modification process and ultimately allow us to develop the most comprehensive and collaborative Final License Application for FERC review.

KHL will be filing these Plans and BE with FERC and placing the public documents on the Kenai Hydro website to provide additional mechanisms for download and review. At the risk of being redundant, I'm also copying the instructions I provided for accessing the DLA from FERC eLibrary (see below). With respect to comment responses, if you would like to submit comments in written form, send them to the following address and reference the FERC Project Number (P-13212):

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Instructions For Accessing the Management/Monitoring Plans and BE via FERC eLibrary

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between May 15th and May 25th. This will ensure that the DLA filing is included in your request.
- Under the "Library" category, make sure "Hydro" is selected.
- Under the "Docket Number" category, enter "P-13212"
- Click "Submit" at the bottom of the page.
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific plans that you'd like to review, select the .pdf option and the selected file will open on your computer.

As always, if there are any questions, please don't hesitate to contact me.

Thanks.

Cory Warnock
Senior Licensing and Regulatory Specialist

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360.384.2662 p | 360.739.0187 c
warnock@mcmjac.com

From: Frank Winchell <Frank.Winchell@ferc.gov>
Sent: Monday, June 01, 2015 4:44 AM
To: Warnock, Cory; Kenneth Hogan
Cc: 'Mike Salzetti'; Andersen, Emily; Kenneth Hogan; Timothy Konnert
Subject: RE: Response to Mark Luttrell Section 106 Filing

Thanks, Cory.

Appreciate the letter and we'll respond with Mark's request, along with your letter, shortly.

Regards,

Frank

From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Saturday, May 30, 2015 9:15 PM
To: Kenneth Hogan; Frank Winchell
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Response to Mark Luttrell Section 106 Filing

Hi Ken and Frank,

On behalf of Kenai Hydro, LLC, I filed a letter today in response to Mark Luttrell's request dated May 26, 2015. Per that filing and the associated Cc commitment therein, I wanted to get you a copy of the filing.

Thanks and don't hesitate to let me know if you have any questions,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

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warnock@mcmjac.com

From: Warnock, Cory
Sent: Tuesday, June 02, 2015 10:56 AM
To: Jan Odhner
Cc: Andersen, Emily
Subject: RE: Grant Lake Hydro Project

Hi there,

With respect to comment responses, if you would like to submit comments in written form, send them to the following address and reference the FERC Project Number (P-13212):

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

In addition, if you'd like to email me a copy of the comments directly, feel free and don't hesitate to let me know if you have any further questions.

Cory Warnock

Senior Licensing and Regulatory Specialist

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From: Jan Odhner [mailto:jjodhner@arctic.net]
Sent: Tuesday, June 02, 2015 10:41 AM
To: Warnock, Cory
Subject: Grant Lake Hydro Project

Cory - I am the president of the Moose Pass community club and would like to comment on the hydro project. Could you provide me with either an email address or mailing address for commenting on the project? Thank you Jan Odhner

From: Warnock, Cory
Sent: Tuesday, June 02, 2015 10:15 AM
To: Jeffry Anderson
Subject: Message

Hi Jeff,

I got your message but I'm working remotely and in meetings through tomorrow. Once I'm back at the office on Thursday, I'll give you a call. In the interim and if you need anything immediate, shoot me an email and I'll do my best to get you the info you need.

Thanks,

Cory Warnock

Senior Licensing and Regulatory Specialist

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warnock@mcmjac.com

Begin forwarded message:

From: Jan Odhner <janodhner@gmail.com>
Date: June 4, 2015 at 5:47:07 PM PDT
To: "warnock@mcmjac.com" <warnock@mcmjac.com>
Subject: Grant Lake Hydro

Dear Mr. Warnock- I am writing you this letter to comment on the Grant Lake Hydro Project. I am the current Moose Pass community club president and thirty six year resident . I was present at the first meeting when HEA shared with the community their idea of pursuing a hydro project at Grant Lake. All but one of the residents that attended the meeting were in opposition of the project except one who happened to be a contractor who had worked on a similar project" the Bradley Lake project. It is easy to see why he is in favor as I'm sure that he will bid on aspects of the job should it be given the go ahead. I am quite shocked at how far this has gone with HEA knowing that the residents are overwhelmingly against the project. They obviously could care less how the locals feel and are simply going through the motions of sharing it with the community because it is part of the process. Most of us feel that the little bit of power generated is not worth the permanent geographical disruption. There are many of us that cherish the fact that Grant lake is off the road system and those of us that provide lodging send clients up there to enjoy the untouched beauty. I can't explain the beauty when standing on top of Crown Point mountain looking down over Grant Lake and can only hope my grandchildren could see it as I have. The world is on the brink of discovering much better ways of generating clean energy. I think it is almost criminal that all of the grant money wasn't used to explore alternate forms of energy. The project that was presented to the community had the access road coming off mine road and not across Trail Lake narrows. That will forever change the face of lower trail lake. Four mega watts of electricity is not an even trade for all of the changes that come from this project. Unfortunately most residents in this area are reclusive and don't participate in the public process. An access road will mean motor boats on the lake . I have talked with fisheries people and they say a one year study is not adequate to get a clear picture of the effects. The mouth of Grant creek has always been a favorite trout fishing spot for the locals. No more if this project moves forward. On behalf of me and the majority of the locals... We are opposed of this project.

Sincerely Jan Odhner
Sent from my iPad

From: Warnock, Cory
Sent: Friday, June 05, 2015 8:38 AM
To: Strickland, Wade K (DEC)
Cc: 'Mike Salzetti'; Andersen, Emily; Rypkema, James (DEC); Dewandel, Shannon S (DEC)
Subject: RE: Grant Lake Project 401 Certification Waiver

Thanks Wade. As a heads-up to you, Jim and Shannon, we'll be sending our formal request along sometime next week for your review.

Appreciate the quick response,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Strickland, Wade K (DEC) [mailto:wade.strickland@alaska.gov]
Sent: Thursday, June 04, 2015 10:18 AM
To: Warnock, Cory
Cc: 'Mike Salzetti'; Andersen, Emily; Rypkema, James (DEC); Dewandel, Shannon S (DEC)
Subject: RE: Grant Lake Project 401 Certification Waiver

Hi Cory-

Please direct the request to the following:

Jim Rypkema, Section Manager
Alaska Department of Environmental Conservation
Division of Water
Storm Water & Wetlands Section
555 Cordova Street
Anchorage, AK 99501

I've copied Jim and Shannon DeWandel on this e-mail as they will be your main points of contact.

Good luck with your project and let us know if you have any questions.

Thank you.

Wade

Wade Strickland, Program Manager

<http://dec.alaska.gov/water/wwdp/index.htm>

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Thursday, June 04, 2015 8:31 AM
To: Strickland, Wade K (DEC)
Cc: 'Mike Salzetti'; Andersen, Emily
Subject: Grant Lake Project 401 Certification Waiver

Hello Mr. Strickland,

My name is Cory Warnock and I am the consulting project manager for the proposed Grant Lake Hydroelectric Project (FERC P-13212) on the Kenai Peninsula. I've been working directly with Homer Electric Association and its subsidiary, Kenai Hydro, LLC (KHL) over the past 4 years on the comprehensive biological studies, engineering feasibility efforts and high level collaboration with state and federal agencies associated with the FERC licensing process. Over the past 2 months we have distributed our draft license application and a series of management/monitoring plans for public review and comment along with a 404 application to the ACOE in advance of our filing of a final license application late this year. We are now at a position where it would be prudent to reach out to your agency and seek the Section 401 Water Quality Certification waiver typically associated with hydro projects in Alaska. As such and given you are listed as a primary contact, I was hoping you could direct me to the appropriate individual (section manager, etc.) to send our formal request to. Once I hear back from you, KHL's direct project manager (Mike Salzetti) and I will draft the request and get it to the appropriate individual(s) for review.

I'll look forward to hearing from you and thanks for your time,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Warnock, Cory
Sent: Friday, June 05, 2015 11:46 AM
To: 'Anderson, Jeffry'
Subject: RE: Draft Grant Lake Project (P-13212) Biotic Monitoring Plan

Dang it. I thought maybe I could pass some of mine your way!! 😊

Keep me posted on progress as you have time and have a good weekend.

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Anderson, Jeffry [mailto:jeffry_anderson@fws.gov]
Sent: Friday, June 05, 2015 11:44 AM
To: Warnock, Cory
Subject: Re: Draft Grant Lake Project (P-13212) Biotic Monitoring Plan

Hi Cory. I appreciate your response. Unfortunately, this is not the only task on my calendar right now.

Jeffry Anderson
Field Supervisor
USFWS, Kenai Fish & Wildlife Field Office
43655 Kalifornsky Beach Road, Soldotna, AK 99669
Office: 907-260-0132
Cell: 907-252-4896

On Fri, Jun 5, 2015 at 8:51 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi Jeff,

Thanks for the description of the issue. Apparently, you and I connecting on the phone right now is a bit difficult! ☺ As you know, KHL distributed the bulk of the management plans for Grant Lake on 5/15 in hopes that the 6 week window remaining in the DLA review period would be enough for you to complete your review of those plans in parallel to the DLA itself. That is still our ultimate hope. That said and given the distribution of the Biotic Monitoring Plan came on 6/1, that gives you 24 days for the review of that additional plan. As you know, the 90 day review of the DLA is a structured component of the overall DLA process and our expectation given its distribution on 3/27/15 is that we will see all comments back on it by the requisite deadline of 6/25/15. With respect to the associated management plans, we remain hopeful that comments on those will come at the same time given their inter-related nature. If possible, I'd appreciate an update on your current status with respect to the review of the management plans and perhaps a description of when you think you might be able to finalize your comments. Obviously concurrent with the DLA comment period would be preferred but I understand that this latest plan doesn't leave much time. So, ASAP after the 6/25 date would be appreciated.

Thanks Jeff and let me know as you have time,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Anderson, Jeffry [mailto:jeffry_anderson@fws.gov]

Sent: Thursday, June 04, 2015 10:39 AM

To: Warnock, Cory

Subject: Re: Draft Grant Lake Project (P-13212) Biotic Monitoring Plan

Hi Cory. Instead of playing phone tag, I'll send you my concerns. Thanks for sending the latest plan for review. I know it is KHL's desire to receive comments on the Draft Biotic Monitoring Plan in addition to the other draft plans listed below concurrent with review and comment for the Draft License Application. However, this is a very short turn-around for adequate review of this latest plan, let alone the other plans that were distributed for review a short time ago. I plan to submit comments for the DLA, but likely won't have time for adequate review of the other documents.

-- Jeff

Jeffrey Anderson

Field Supervisor

USFWS, Kenai Fish & Wildlife Field Office

43655 Kalifornsky Beach Road, Soldotna, AK 99669

Office: 907-260-0132

Cell: 907-252-4896

On Mon, Jun 1, 2015 at 11:10 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hi all,

Per the commitment in the email below, I am attaching the Biotic Monitoring Plan (BMP) for review which is the final plan we will be distributing concurrent with the DLA review process. Per previous communications, it continues to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27, 2015 which formally began a 90 day review period which will conclude on June 25, 2015. This BMP will also be filed with FERC and placed on the KHL website within the next day or so.

As always, if there are any questions, don't hesitate to let me know.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory

Sent: Friday, May 15, 2015 3:37 PM

To: 'Monte Miller'; 'Patricia Berkhahn' (patricia.berkhahn@alaska.gov); 'Joe Klein'; 'Ginny Litchfield' (ginny.litchfield@alaska.gov); 'Jason Mouw'; Begich, Robert N (DFG); 'Judy Bittner'; 'shina.duvall@alaska.gov'; 'carl.reese@alaska.gov'; Schade, David W (DNR); 'Lesli Schick' (lesli.schick@alaska.gov); 'Robin Swinford'; 'Thomas, Ryan J (DNR)'; 'sfishergoad@aidea.org'; 'Daniel J. Hertrich'; 'david.griffin@alaska.gov'; 'pamela.russell@alaska.gov'; 'jseebach@americanrivers.org'; 'kkeeler@blm.gov'; 'hshepherd@uci.net'; 'jbrune@ciri.com'; 'Gary Fandrei'; 'keeper@inletkeeper.org'; 'painter@arctic.net'; 'Doug Mutter'; 'phillip_johnson@ios.doi.gov'; 'joe.darnell@sol.doi.gov'; 'Ken Hogan'; 'frank.winchell@ferc.gov'; 'douglas.johnson@ferc.gov'; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'Paul Torgerson' (paul@grantlakemining.com); 'jjh@seward.net'; 'jaffa@eagle.ptialaska.net'; 'kna@alaska.net'; 'ricky@krsa.com'; 'exec@kenaitze.org'; 'Brenda Trefon'; 'mmueller@kpb.us'; 'ikerdhome@gmail.com'; 'DMahalak@borough.kenai.ak.us'; 'jczarnezki@borough.kenai.ak.us'; 'jmohorci@borough.kenai.ak.us'; 'admin@moosepassalaska.com'; 'jan@hydroreform.org'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell' (prufrock@arctic.net); 'info@salamatof.com'; 'johnb@ssraa.org'; 'tbristol@tu.org'; 'Katherine McCafferty' (katherine.a.mccafferty2@usace.army.mil); 'Denise Koopman' (denise.koopman@usace.army.mil); 'CEPOA-RD_Kenai@usace.army.mil'; 'rbirk@fs.fed.us'; 'Kevin Laves' (klaves@fs.fed.us); 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS' (kvanmassenhove@fs.fed.us); 'jeavis@fs.fed.us'; 'Karen O'Leary'; 'Travis Moseley' (tmoseley@fs.fed.us); 'Lynnda Kahn'; 'socheata_lor@fws.gov'; 'frances_mann@fws.gov'; 'Jeffrey Anderson'; 'Phil Brna'; 'ak_fisheries@fws.gov'; 'Brent Goodrum'; 'waterlaw@uci.net'; 'Katharine Glaser'; 'jjodhner@arctic.net'; 'claireshipton@gmail.com'; 'info@chenega.com'; 'president@eklutna-nsn.gov'; 'ntc@niniichiktribe-nsn.gov'; 'Kime, Sherry D -FS'; 'mike@alaska-energy.com'; 'irene@arctic.net'; 'bearimage.dw@gmail.com'; 'katie.johnson@alaska.gov'; 'jslang11@yahoo.com'; 'pm99588@yahoo.com'; 'peruprairie@hotmail.com'; 'andbacon2@yahoo.com'; 'dyrkss@yahoo.com'; 'jestes@cityofseward.net'

Cc: 'Mike Salzetti'; Zubeck, Brad; Janorschke, Brad; 'JGallagher@HomerElectric.com'; Andersen, Emily; McMillen, Morton D.; Warnock, Cory

Subject: Draft Grant Lake Project (P-13212) Management Plans

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hello all,

Per KHL's commitment, I am attaching three draft Grant Lake management and monitoring plans (Plans) and a Biological Evaluation (BE) for your review/comment. These Plans and BE are:

- Draft Grant Lake Operation Compliance Monitoring Plan
- Draft Grant Lake Avian Protection Plan
- Draft Grant Lake Vegetation Management Plan (Public Version)
- Draft Grant Lake Biological Evaluation for Plants

Additional documents that have been developed and are being sent to the appropriate entities for review and comment based on either their privileged or content specific nature include:

- Draft Grant Lake Historic Properties Management Plan
- Draft Grant Lake Vegetation Management Plan (Privileged Version)
- Clean Water Act Section 404 Application (Army Corps of Engineers)

In addition to all of the documents mentioned above, a Draft Biotic Monitoring Plan is in the final phases of development and will be distributed for public review and comment shortly. Per previous communications, it continues to be KHL's intent to facilitate a parallel review/comment period between the previously distributed Grant Lake Project Draft License Application (DLA) and these Plans and BE. As you'll likely recall, the DLA was distributed/filed on March 27, 2015 which formally began a 90 day review period which will conclude on June 25, 2015. It is KHL's desire to receive comments from not only the DLA by this date but also the Plans and BE. This will assist in facilitating an efficient comment review and document modification process and ultimately allow us to develop the most comprehensive and collaborative Final License Application for FERC review.

KHL will be filing these Plans and BE with FERC and placing the public documents on the Kenai Hydro website to provide additional mechanisms for download and review. At the risk of being redundant, I'm also copying the instructions I provided for accessing the DLA from FERC eLibrary (see below). With respect to comment responses, if you would like to submit comments in written form, send them to the following address and reference the FERC Project Number (P-13212):

Honorable Kimberly D. Bose, Secretary

Federal Energy Regulatory Commission

888 First Street, NE

Washington, DC 20426

Instructions For Accessing the Management/Monitoring Plans and BE via FERC eLibrary

- Click on link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>
- Under the "Date Range" category in the "From" option, make sure the date range is inclusive of the range between May 15th and May 25th. This will ensure that the DLA filing is included in your request.
- Under the "Library" category, make sure "Hydro" is selected.
- Under the "Docket Number" category, enter "P-13212"
- Click "Submit" at the bottom of the page.
- A chronological list of documents/correspondence will appear with detailed descriptions of each. At the far right of specific plans that you'd like to review, select the .pdf option and the selected file will open on your computer.

As always, if there are any questions, please don't hesitate to contact me.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Warnock, Cory
Sent: Wednesday, June 10, 2015 3:12 PM
To: 'Monte Miller'; 'Patricia Berkahn (patricia.berkahn@alaska.gov)'; 'Joe Klein'; 'Ginny Litchfield (ginny.litchfield@alaska.gov)'; 'Jason Mouw'; 'Begich, Robert N (DFG)'; 'Judy Bittner'; shina.duvall@alaska.gov; carl.reese@alaska.gov; 'Schade, David W (DNR)'; 'Lesli Schick (lesli.schick@alaska.gov)'; 'Robin Swinford'; Thomas, Ryan J (DNR); sfishergoad@aidea.org; Daniel J. Hertrich; david.griffin@alaska.gov; 'pamela.russell@alaska.gov'; jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; 'Gary Fandrei'; keeper@inletkeeper.org; painter@arctic.net; 'Doug Mutter'; phillip_johnson@ios.doi.gov; joe.darnell@sol.doi.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; douglas.johnson@ferc.gov; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'Paul Torgerson (paul@grantlakemining.com)'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; kna@alaska.net; ricky@krsa.com; 'exec@kenaitze.org'; 'Brenda Trefon'; mmueller@kpb.us; ikerdhome@gmail.com; DMahalak@borough.kenai.ak.us; jczarnezi@borough.kenai.ak.us; jmohorci@borough.kenai.ak.us; admin@moosepassalaska.com; 'jan@hydroreform.org'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; info@salamatof.com; johnb@ssraa.org; tbristol@tu.org; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Denise Koopman (denise.koopman@usace.army.mil)'; CEPOA-RD_Kenai@usace.army.mil; rbirk@fs.fed.us; 'Kevin Laves (klaves@fs.fed.us)'; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'jeavis@fs.fed.us'; 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); 'Lynnda Kahn'; socheata_lor@fws.gov; frances_mann@fws.gov; 'Jeffrey Anderson'; 'Phil Brna'; ak_fisheries@fws.gov; 'Brent Goodrum'; 'waterlaw@uci.net'; Katharine Glaser; jjodhner@arctic.net; claireshipton@gmail.com; info@chenega.com; president@eklutna-nsn.gov; 'ntc@ninilchiktribe-nsn.gov'; 'Kime, Sherry D -FS'; mike@alaska-energy.com; irene@arctic.net; bearimage.dw@gmail.com; katie.johnson@alaska.gov; jslang11@yahoo.com; pm99588@yahoo.com; peruprairie@hotmail.com; andbacon2@yahoo.com; dyrkss@yahoo.com; jestes@cityofseward.net
Cc: 'Mike Salzetti'; Zubeck, Brad; Janorschke, Brad; 'JGallagher@HomerElectric.com'; Andersen, Emily; McMillen, Morton D.
Subject: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hi all,

As you know, over the past month, KHL has distributed a series of documents for your review and comment. Four documents (Operation Compliance Monitoring Plan, Avian Protection Plan, Vegetation Management Plan (public version) and Biological Evaluation for Plants) were distributed on May 15, 2015. Along with this distribution, additional documents were developed and distributed for appropriate entities to review and comment on based on their privileged or content specific nature (Historic Properties Management Plan, Vegetation Management Plan (Privileged Version), ACOE Section 404 Application). Then on June 1, 2015, KHL distributed the final management plan that it elected to proactively develop for review and comment during this phase (Biotic Monitoring Plan). KHL understands that even though you all will have had 6 weeks to review the initial four management plans sent (Operation Compliance Monitoring Plan, Avian Protection Plan, Vegetation Management Plan (public version) and Biological Evaluation for

Plants) and 3 ½ weeks to review the final distribution (Biotic Monitoring Plan), you have also likely been spending time reviewing the DLA given its formal deadline of June 25, 2015. This is of course to say nothing for all of the other obligations that you likely have on your plate. With that understanding, KHL would like to ask that all management plan comments be received by July 15, 2015. This additional 20 days added to the already allotted 6 weeks (9 total) and 3 ½ weeks (6 ½) total respectively, will hopefully provide enough time for all parties interested to review and comment on the suite of management plans KHL has drafted and distributed.

Thank you and as always, if you have any questions, don't hesitate to let me know.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan <Kenneth.Hogan@ferc.gov>
Sent: Friday, June 12, 2015 8:18 AM
To: Warnock, Cory
Cc: Nicholas Tackett; Frank Winchell; Mike Salzetti; Andersen, Emily
Subject: RE: Grant Lake Resource Management Plans

Cory,

Got it. Thank you.

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Friday, June 12, 2015 11:06 AM
To: Kenneth Hogan
Cc: Nicholas Tackett; Frank Winchell; Mike Salzetti; Andersen, Emily
Subject: RE: Grant Lake Resource Management Plans

Hi Ken,

Attached are the draft management plans and the BE for Grant Lake in an MSWord version. If you could confirm receipt, I'd appreciate it. Couple of things to note with them relative to the .pdf versions you currently have, 1) The maps and some other figures are not inserted into the word versions of the documents. We do this intentionally and insert maps/figures at the end of the process to facilitate easier back and forth for internal reviews/revisions. As such, when reviewing maps/figures, you'll need to utilize the .pdf versions of the documents, 2) Just a reminder, the HPMP and Vegetation Management Plan contain privileged information. I know you're aware of this but just wanted to point it out for the sake of all on the email.

Don't hesitate to let me know if you need anything else.

Thanks,

Cory

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Friday, June 12, 2015 7:31 AM
To: Warnock, Cory
Cc: Nicholas Tackett; Frank Winchell; Mike Salzetti
Subject: Grant Lake Resource Management Plans

Hi Cory,

Commission staff has been conducting its review of the DLA and will be providing our comments shortly. We are also going to review the draft management plans and provide you with comments that we hope will be useful to KHL. To facilitate our review and comments on the draft management plans, would it be possible for you to email them to me in a MSWord document format?

Thanks,
Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory
Sent: Friday, June 12, 2015 10:26 AM
To: Andersen, Emily
Subject: Fwd: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

FYI

Begin forwarded message:

From: "Fisheries Comment, FW7" <ak_fisheries@fws.gov>
Date: June 12, 2015 at 10:22:54 AM PDT
To: "Warnock, Cory" <Warnock@mcmjac.com>
Subject: Re: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

Hello Cory,

I do not need to be added to the email list.
Since you passed information on to Soch,
I believe that is all I need. (She is my supervisor)

Just for your FYI...
Phil Brna has retired as of April 30.
Fran Mann is no longer working for FWS, she moved over to BOEM.
Ellen Lance is the Chief of our Ecological Services Branch
(which is a combination of Endangered Species and Contaminants)
ellen_lance@fwsgov
Ellen may need to be added to your email list.

Thank you,

Cathy

Catherine Shaw
Administrative Assistant
U.S. Fish and Wildlife Service
Anchorage Fish and Wildlife Field Office
4700 BLM Road
Anchorage, AK 99507
907-271-2888
Fax: 907-271-2786
Toll Free: 1-800-27204147
catherine_shaw@fws.gov

On Thu, Jun 11, 2015 at 11:00 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi Catherine,

Per your email on April 7th, we made the changes to the contact list you suggested for your agency but I wasn't aware that you were interested in also being added. We have a number of contacts on our global distribution/stakeholder list with USFWS. I've listed them below along with whether or not we've been successful or not in getting emails through. To be clear and as is typical with any process we manage, we typically have a group of primary contacts with an agency (Jeff Anderson in this case) who carry out a majority of the primary consultation related to the licensing process. Then, as we develop fundamental documents, we not only send them to our primary contact within an agency but also to managers that we've proactively identified to make sure we've covered our bases and have been as communicative as possible.

- Jeff Anderson (successful distribution)
- Lynnda Kahn (successful distribution)
- Soch Lor (successful distribution)
- Phil Brna (unsuccessful with the last distribution yesterday but successful with distribution of all documents)
- Frances Mann (unsuccessful throughout distribution)

Am I correct that based upon your email below, you'd also like to be added to the contact list and would like copies of the DLA and all management plans sent directly to you as well? Let me know and if this is the case, I'll get it done.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: catherine_shaw@fws.gov [mailto:catherine_shaw@fws.gov] **On Behalf Of** Fisheries Comment, FW7

Sent: Thursday, June 11, 2015 9:19 AM

To: Warnock, Cory

Subject: Re: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

Hello,

this is the first email I have received concerning this project.

Can you please send the two previous?

Thank you,

Catherine Shaw

Administrative Assistant

U.S. Fish and Wildlife Service

Anchorage Fish and Wildlife Field Office

4700 BLM Road

Anchorage, AK 99507

907-271-2888

Fax: 907-271-2786

Toll Free: 1-800-27204147

catherine_shaw@fws.gov

On Wed, Jun 10, 2015 at 2:11 PM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hi all,

As you know, over the past month, KHL has distributed a series of documents for your review and comment. Four documents (Operation Compliance Monitoring Plan, Avian Protection Plan, Vegetation Management Plan (public version) and Biological Evaluation for Plants) were distributed on May 15, 2015. Along with this distribution, additional documents were developed and distributed for appropriate entities to review and comment on based on their privileged or content specific nature (Historic Properties Management Plan, Vegetation Management Plan (Privileged Version), ACOE Section 404 Application). Then on June 1, 2015, KHL distributed the final management plan that it elected to proactively develop for review and comment during this phase (Biotic Monitoring Plan). KHL understands that even though you all will have had 6 weeks to review the initial four management plans sent (Operation Compliance Monitoring Plan, Avian Protection Plan, Vegetation Management Plan (public version) and Biological Evaluation for Plants) and 3 ½ weeks to review the final distribution (Biotic Monitoring Plan), you have also likely been spending time reviewing the DLA given its formal deadline of June 25, 2015. This is of course to say nothing for all of the other obligations that you likely have on your plate. With that understanding, KHL would like to ask that all management plan comments be received by July 15, 2015. This additional 20 days added to the already allotted 6 weeks (9 total) and 3 ½ weeks (6 ½) total respectively, will hopefully provide enough time for all parties interested to review and comment on the suite of management plans KHL has drafted and distributed.

Thank you and as always, if you have any questions, don't hesitate to let me know.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Salzetti, Mikel [mailto:MSalzetti@HomerElectric.com]
Sent: Monday, June 15, 2015 10:33 AM
To: shannon.dewandel@alaska.gov
Cc: Warnock, Cory
Subject: FW: Grant Lake 401 Waiver Request

Shannon:

I had intended to cc you on the email below, but it looks like I had a typo on the your email address so I am resending this email.

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development
Homer Electric Association
(907) 283-2375 *work*
(907) 398-5073 *Mobile*

From: Salzetti, Mikel
Sent: Monday, June 15, 2015 9:03 AM
To: 'james.rypkema@alaska.gov'
Cc: 'Shannol.dewandel@alaska.gov'; 'Wade.strickland@alaska.gov'; Warnock, Cory (Warnock@mcmjac.com)
Subject: Grant Lake 401 Waiver Request

Mr. Rypkema:

My name is Mike Salzetti and I represent Kenai Hydro, LLC (KHL) as the Project Manager for the proposed Grant Lake Hydroelectric Project on the Kenai Peninsula. Over the past 6 years, KHL has gone through the Traditional Licensing Process (TLP) as regulated by the Federal Energy Regulatory Commission (FERC). We have conducted a comprehensive suite of biological studies that have been collaboratively developed with state and federal agencies as well as interested

public members (stakeholders). We have advanced our engineering feasibility and design efforts to a point where infrastructural details are at a high level and operational parameters have been established. All of this effort has culminated in the development of a FERC Draft License Application and an associated set of draft management plans that have been filed with FERC and are currently in the review and comment phase with stakeholders. Once those comments have been received, reviewed and incorporated to the necessary extent, KHL plans on filing its Final License Application (FLA) with FERC late this year.

The proposed Grant Lake Project will be located near the community of Moose Pass, Alaska in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska, and just east of the Seward Highway (State Route 9); this highway connects Anchorage to Seward. Grant Creek is approximately 1 mile long with an inlet at Grant Lake and an outlet at the Trail Lakes Narrows which connect upper and lower Trail Lakes. The proposed Project would have 5.0 megawatts of installed capacity and produce approximately 18,600 megawatt-hours annually.

Compliance with Section 401 of the Clean Water Act requires that an applicant obtain certification from the state or interstate pollution control agency verifying compliance with the Clean Water Act (CWA). FERC requires that an applicant provide written documentation of the above noted consultation and compliance with the Section 401 certification (or a waiver if certifications are not issued by that state), as part of the license application.

KHL understands that the Alaska Department of Environmental Conservation (ADEC) is the lead agency for purposes of the 401 Water Quality Certifications (WQC) for hydro projects pursuant to the CWA, and that ADEC could waive the requirement for the WQC for this type of action that KHL is proposing. Pursuant to Section 401 of the Clean Water Act and FERC requirements, KHL requests that the ADEC provide Kenai Hydro, LLC with a Waiver of Certification Pursuant to Section 401 of the Clean Water Act. A formal letter commensurate with this request is attached for your review and response.

If you have any questions or need any further information, please do not hesitate to contact me.

Sincerely,

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development
Homer Electric Association
(907) 283-2375 *work*
(907) 398-5073 *Mobile*

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

June 15, 2015

Jim Rypkema, Section Manager
Alaska Department of Environmental Conservation
Division of Water
Storm Water & Wetlands Section
555 Cordova Street
Anchorage, AK 99501

Dear Mr. Rypkema,

Kenai Hydro, LLC (KHL), a wholly owned subsidiary of Homer Electric Association filed a Draft License Application (DLA) on March 27, 2015, as well as a draft Biological Evaluation (BE), and draft monitoring plans on May 15 and June 1, and intends to file a Final License Application (FLA) for the Grant Lake Hydroelectric Project (Project) later this year. KHL has been formally investigating the feasibility for the Project within the structured confines of the Federal Energy Regulatory Commission's (FERC) Traditional Licensing Process (TLP) since 2009.

The proposed Grant Lake Project will be located near the community of Moose Pass, Alaska in the Kenai Peninsula Borough, approximately 25 miles north of Seward, Alaska, and just east of the Seward Highway (State Route 9); this highway connects Anchorage to Seward. Grant Creek is approximately 1 mile long with an inlet at Grant Lake and an outlet at the Trail Lakes Narrows which connect upper and lower Trail Lakes. The proposed Project would have 5.0 megawatts of installed capacity and produce approximately 18,600 megawatt-hours annually.

Compliance with Section 401 of the Clean Water Act (CWA) requires that an applicant obtain certification from the state or interstate pollution control agency verifying compliance with the CWA. FERC requires that an applicant provide written documentation of the above noted consultation and compliance with the Section 401 certification (or a waiver if certifications are not issued by that state), as part of the FLA.

KHL understands that the Alaska Department of Environmental Conservation (ADEC) is the lead agency for the purposes of 401 Water Quality Certifications (WQC) for hydroelectric projects pursuant to the CWA, and that ADEC could waive the requirement for the WQC for this type of action the KHL is proposing. Pursuant to Section 401 of the CWA and FERC requirements, KHL hereby requests that the ADEC provide KHL with a Waiver of Certification Pursuant to Section 401 of the Clean Water Act.

If you need additional information or have any questions related to this request, please do not hesitate to contact me by phone at 907-283-2375 or email at msalzetti@HomerElectric.com. Thank you in advance for your efforts related to this Project and assistance with KHL's comprehensive FLA submittal.

Kenai Hydro, LLC

3977 Lake Street
Homer, AK 99603

Sincerely,

A handwritten signature in blue ink that reads "Mike Salzetti". The signature is written in a cursive, flowing style.

Mike Salzetti
Project Manager
Kenai Hydro, LLC

CC – Shannon Dewandel (DEC)

CC – Wade Strickland (DEC)

From: Miller, Monte D (DFG) [mailto:monte.miller@alaska.gov]
Sent: Monday, June 15, 2015 12:28 PM
To: Warnock, Cory
Cc: 'Mike Salzetti'
Subject: RE: Got your message

Cory,

The extension we discussed was for the comment period on the DLA. We request a 20 day extension to July 15 for submission of our DLA comments. Our intention is to submit comments as soon as they are ready, however our review process requires more time than previously estimated due to budgetary turmoil over the past few weeks. We also have some staffing issues to work through.

Since the management plans are something appended to, and not a part of the DLA, we will comment on them as time allows. This is a DLA, which is our focus, with comments on submitted plan to be addressed over the next few months, in preparation of the FLA. Also, any request to change the comment period for management plans was not our request.

I understand that it is your intention to coordinate all comments and to provide answers before holding agency discussions on the DLA. There should be no difficulty in adding ADF&G comments and responses prior to that meeting, since it would presumably be August before a meeting is held.

We appreciate your cooperation in allowing our request.

Thanks

Monte D. Miller
Statewide FERC Hydropower Coordinator
Alaska Department of Fish and Game
Division of Sport Fish / RTS
333 Raspberry Road
Anchorage, Alaska, 99518-1565

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Monday, June 15, 2015 10:28 AM
To: Miller, Monte D (DFG)
Cc: 'Mike Salzetti'
Subject: Got your message

Hi Monte,

I'm transitioning from one phone call to another but I wanted to let you know that I got your message regarding a request to extend your (ADF&G's) comment period to July 15th. Per the attached email sent last week, KHL has already established a comment deadline consistent with your request for the draft management plans. With respect to the DLA, consistent with the TLP and pursuant to the recent FERC ruling denying an extension request, KHL still feels that the 90 day comment period ending on June 25th is sufficient for receipt of comments on the DLA. Based upon the conversation we had a week or so ago, my assumption is that the extension of time you were talking about was related to the management plans anyway but I can't be certain so I wanted to be explicit with the timeline definitions.

I'll be on the phone for a good chunk of today but shoot me a message back and let me know if I interpreted your message correctly or if follow-up is needed.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Miller, Monte D (DFG) [mailto:monte.miller@alaska.gov]
Sent: Tuesday, June 16, 2015 12:29 PM
To: Salzetti, Mikel
Cc: Warnock, Cory; Mouw, Jason E B (DFG)
Subject: RE: Request for Grant Lake DLA Extension

Mike,

This is unfortunate, and not what was my understanding from my discussion with Cory. Being that the comments are sent to the applicant and not FERC, my understanding was that there should be no problem with flexing the comment date. We will strive to meet the June 25 deadline for the DLA comments.

We also had expected a meeting to be held to discuss the DLA prior to comments being filed to allow for explanation of design changes and refinements which have never been presented formally. Our comments will reflect the difficulties we have in defining the final plans. Hopefully, there will be a meeting to discuss comments etc. before you file the FLA. With little communication in the past year, our evaluation is more difficult to complete.

Monte D. Miller
Statewide FERC Hydropower Coordinator
Alaska Department of Fish and Game
Division of Sport Fish / RTS
333 Raspberry Road
Anchorage, Alaska, 99518-1565

From: Salzetti, Mikel [mailto:MSalzetti@HomerElectric.com]
Sent: Tuesday, June 16, 2015 10:27 AM
To: Miller, Monte D (DFG)
Cc: Warnock, Cory (Warnock@mcmjac.com)
Subject: Request for Grant Lake DLA Extension

Monte:

Cory has been keeping me in the loop with respect to correspondence from you (and others) in regard to timing of responses for both the DLA and the associated management plans. I can understand and appreciate that you and your department have multiple projects that you are working on, all with deadlines and heavy workloads associated with them. I'm in a similar position here and it can certainly take a toll. All of that said, we have a vested interest in keeping this process standardized and equal for all parties. Previously, we have received calls from other agencies and Stakeholders inquiring about timelines/deadlines related to the DLA and the management plans. We have shared a consistent message with them of sticking with the FERC mandated 90 day review period for the DLA but took the step of setting a comment period for the management plans of July 15th essentially giving 3 additional weeks beyond the DLA review period to comment on the management plans. We have received positive feedback from those entities and a commitment to meet the June 25th DLA comment deadline. This combined with the fact that FERC recently ruled on a request (and rebuttal by KHL) to not extend the DLA deadline leaves me in a position where KHL must remain firm on a June 25th deadline for comments related to the DLA.

I want ADF&G to know that we sincerely appreciate the collaborative and cohesive relationship that we have developed with ADF&G during this process. The development of this Project has come a long way over the past few years and that is a direct result of stakeholder representatives (ADF&G being A primary member) coming together and openly discussing study results, impacts, infrastructure, etc. Our decision to hold to the June 25th deadline for DLA comments is in no way an attempt to avoid or impede this continued collaborative effort. Rather, it is in an effort to continue it and ensure that all parties are given an equal and consistent opportunity to comment within the existing confines of the defined process.

Best Regards,

Mike

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development

Homer Electric Association

(907) 283-2375 *work*

(907) 398-5073 *Mobile*

From: Griffin, David W (DNR) [mailto:david.griffin@alaska.gov]

Sent: Wednesday, June 17, 2015 3:46 PM

To: Salzetti, Mikel

Cc: Warnock, Cory; Bruno, Jeff J (DNR); Longan, Sara W (DNR); Russell, Pamela J (DNR); Thomas, Ryan J (DNR); Blackwell, Jack D (DNR)

Subject: RE: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

Mike,

Thanks for the response. DPOR works with the DNR Office of Management and Permitting (OPMP) on a host of large scale development projects throughout the state, including FERC coordinated hydroelectric projects. I highly recommend that you work with OPMP to establish an MOU to make sure your project gets the attention it deserves. DPOR has a long list of priorities, until this project makes an effort to establish an MOU through OPMP, and includes for DPOR for a reimbursable services account to pay for staff time, there will minimal participation by DPOR staff.

Sincerely,

David Griffin
(907) 269-8696
david.griffin@alaska.gov

Special Assistant to the Director
Director's Office
Division of Parks and Outdoor Recreation
Department of Natural Resources
550 West 7th Ave., Suite 1380
Anchorage, AK 99501

From: Salzetti, Mikel [<mailto:MSalzetti@HomerElectric.com>]
Sent: Wednesday, June 17, 2015 12:51 PM
To: Griffin, David W (DNR)
Cc: Warnock, Cory; Bruno, Jeff J (DNR); Longan, Sara W (DNR); Russell, Pamela J (DNR); Thomas, Ryan J (DNR); Blackwell, Jack D (DNR)
Subject: RE: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

David:

Thank you for your email. HEA through KHL still plans to file a Final License Application on the proposed Grant Lake Hydroelectric Project in December of 2015. We have had quality involvement from ADNR throughout the licensing process, including the Division of Parks and Outdoor Recreation, and we look forward to that continued involvement. I will be sure to contact Director Longan regarding permitting and project management if FERC grants HEA a license to construct the project. Currently we anticipate the issuance of a FERC license to construct in Early 2017.

Best Regards,

Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Homer Electric Association
(907) 283-2375 *work*
(907) 398-5073 *Mobile*

From: Griffin, David W (DNR) [<mailto:david.griffin@alaska.gov>]
Sent: Wednesday, June 10, 2015 2:35 PM
To: Salzetti, Mikel
Cc: Warnock, Cory; Bruno, Jeff J (DNR); Longan, Sara W (DNR); Russell, Pamela J (DNR); Thomas, Ryan J (DNR)
Subject: RE: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

Hi Mike,

The Division of Parks and Outdoor Recreation has land management authority in the vicinity of this proposed hydro project. Until this project makes an effort to establish an MOU with DNR, and includes for DPOR for a reimbursable services account to pay for staff time, there will minimal participation by DPOR staff. I highly recommend that you work with the DNR Office of Management and Permitting (OPMP) to establish an MOU. The OPMP serves as an important asset for large projects, and they have a hydro coordinator on staff that will help to ensure that your project is getting the attention it deserves.

The Director of OPMP is Sara Longan (269-8732), and the Deputy Director is Jeff Bruno (269-7476). Please touch base with them to learn more about setting up an MOU.

Best Regards,

David Griffin
(907) 269-8696
david.griffin@alaska.gov

Special Assistant to the Director
Director's Office
Division of Parks and Outdoor Recreation
Department of Natural Resources
550 West 7th Ave., Suite 1380
Anchorage, AK 99501

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Wednesday, June 10, 2015 2:12 PM
To: Miller, Monte D (DFG); Berkhahn, Patricia G (DFG); Klein, Joseph P (DFG); Litchfield, Virginia P (DFG); Mouw, Jason E B (DFG); Begich, Robert N (DFG); Bittner, Judith E (DNR); Duvall, Shina A (DNR); Reese, Carl D (DNR); Schade, David W (DNR); Schick, Leslie J (DNR); Swinford, Robin E (DNR); Thomas, Ryan J (DNR); Fishergoad, Sara L (AIDEA); Hertrich, Daniel J (AIDEA); Griffin, David W (DNR); Russell, Pamela J (DNR); jseebach@americanrivers.org; kkeeler@blm.gov; hshepherd@uci.net; jbrune@ciri.com; 'Gary Fandrei'; keeper@inletkeeper.org; painter@arctic.net; douglas_mutter@ios.doi.gov; phillip_johnson@ios.doi.gov; joe.darnell@sol.doi.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; douglas.johnson@ferc.gov; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'Paul Torgerson (paul@grantlakemining.com)'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; kna@alaska.net; ricky@krsa.com; 'exec@kenaitze.org'; 'Brenda Trefon'; mmueller@kpb.us; ikerdhome@gmail.com; DMahalak@borough.kenai.ak.us; iczarneski@borough.kenai.ak.us; jmohorci@borough.kenai.ak.us; admin@moosepassalaska.com; 'jan@hydroreform.org'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; info@salamatof.com; johnb@ssraa.org; tbristol@tu.org; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Denise Koopman (denise.koopman@usace.army.mil)'; CEPOA-RD_Kenai@usace.army.mil; rbirk@fs.fed.us; 'Kevin Laves (klaves@fs.fed.us)'; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'jeavis@fs.fed.us'; 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); lynnda_kahn@fws.gov; socheata_lor@fws.gov; frances_mann@fws.gov; 'Jeffry Anderson'; 'Phil Brna'; ak_fisheries@fws.gov; Goodrum, Brent W (DNR); 'waterlaw@uci.net'; Katharine Glaser; jjodhner@arctic.net; claireshipton@gmail.com; info@chenega.com; president@eklutna-nsn.gov; 'ntc@niniichiktribe-nsn.gov'; 'Kime, Sherry D -FS'; mike@alaska-energy.com; irene@arctic.net; bearimage.dw@gmail.com; Baldwin-Johnson, Kathleen D (DOR); jslang11@yahoo.com; pm99588@yahoo.com; peruprairie@hotmail.com; andbacon2@yahoo.com; dyrkss@yahoo.com; jestes@cityofseward.net
Cc: 'Mike Salzetti'; Zubeck, Brad; Janorschke, Brad; 'JGallagher@HomerElectric.com'; Andersen, Emily; McMillen, Morton D.
Subject: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hi all,

As you know, over the past month, KHL has distributed a series of documents for your review and comment. Four documents (Operation Compliance Monitoring Plan, Avian Protection Plan, Vegetation Management Plan (public version) and Biological Evaluation for Plants) were distributed on May 15, 2015. Along with this distribution, additional documents were developed and distributed for appropriate entities to review and comment on based on their privileged or content specific nature (Historic Properties Management Plan, Vegetation Management Plan (Privileged Version),

ACOE Section 404 Application). Then on June 1, 2015, KHL distributed the final management plan that it elected to proactively develop for review and comment during this phase (Biotic Monitoring Plan). KHL understands that even though you all have had 6 weeks to review the initial four management plans sent (Operation Compliance Monitoring Plan, Avian Protection Plan, Vegetation Management Plan (public version) and Biological Evaluation for Plants) and 3 ½ weeks to review the final distribution (Biotic Monitoring Plan), you have also likely been spending time reviewing the DLA given its formal deadline of June 25, 2015. This is of course to say nothing for all of the other obligations that you likely have on your plate. With that understanding, KHL would like to ask that all management plan comments be received by July 15, 2015. This additional 20 days added to the already allotted 6 weeks (9 total) and 3 ½ weeks (6 ½) total respectively, will hopefully provide enough time for all parties interested to review and comment on the suite of management plans KHL has drafted and distributed.

Thank you and as always, if you have any questions, don't hesitate to let me know.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

FEDERAL ENERGY REGULATORY COMMISSION

Washington, D.C. 20426

June 17, 2015

OFFICE OF ENERGY PROJECTS

Project No. 13212-000 – Alaska
Grant Lake Hydroelectric Project
Kenai Hydro, LLC

Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Kenai Hydro, LLC
3977 Lake Street
Homer, AK 99603

Reference: Review of Draft License Application for the Proposed Grant Lake Hydroelectric Project; Identification of Potential Deficiencies and Additional Information Needs

Dear Mr. Salzetti:

On March 27, 2015, Kenai Hydro, LLC (KHL) provided stakeholders and Commission staff with a draft license application for the proposed Grant Lake Hydroelectric Project. The proposed project would be located on Grant Lake and Creek, near the town of Moose Pass, in Kenai Peninsula Borough, Alaska.

Upon review of the application we have identified some potential deficiencies and some additional information needs. License application deficiencies may result in the rejection of the application. When preparing the final license application, adequately addressing the potential deficiencies and the additional information requested in our comments on the draft license application will facilitate the licensing process for the proposed project.

Additionally, on May 18, 2015, subsequent to filing the draft license application, KHL submitted the following resource management plans:

- Draft Grant Lake Project Operation Compliance Monitoring Plan (OCMP)
- Draft Grant Lake Project Avian Protection Plan (APP)
- Draft Grant Lake Project Historic Properties Management Plan (HPMP)
- Draft Grant Lake Project Vegetation Management Plan (VMP)

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- Draft Grant Lake Project Biological Evaluation for Plants (BE)

Subsequently, on June 2, 2015, KHL filed its *Draft Biotic Monitoring Plan*.

We will review and, if deemed appropriate, provide comments on these resource management plans under separate cover. Any questions on our comments should be directed to me at (202) 502-8434, or via email at: Kenneth.hogan@ferc.gov.

Sincerely,

Kenneth Hogan, Project Coordinator
West Branch
Division of Hydropower Licensing

Attachment: Schedule A – Comments on Draft License Application

cc: Mailing List
Public File

Schedule A

Comments on Draft License Application

for the

Grant Lake Hydroelectric Project

Grant Lake Hydroelectric Project

Project No. 13212-000

Schedule A

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Exhibit ASection 4 – Proposed Project Facilities

Section 4.6, *Tailrace Detention Pond*, provides a general description of the purpose and use for the tailrace detention pond. However, this description is limited. In the final license application, please expand the proposed operation discussion to include some of the detail in the supporting design report on the reason for the pond (ramping concern) and how the pond would work, including the volume of water diverted into the pond and the amount released to the tailrace during typical operation. Similarly, because the supporting design report is considered Critical Energy Infrastructure Information (CEII) and access to CEII information is restricted, we suggest moving any Exhibit A, B, C & D information that is included in the supporting design report (but does not warrant CEII protections) to the respective exhibits.

Exhibit BSection 3 – Existing Resource Utilization

Section 3.3, *Dependable Capacity and Average Annual Production*, states that calculated average annual energy production was based on 66 years of streamflow data run through the project operations model. Please include, as an appendix to the final license application, the annual generation for each of the 66 model years.

Exhibit DSection 6 – Value of Project Power*Section 6.1 – Contingency Spinning Reserve*

Section 6.1 states that a model was used to estimate the amount of spinning reserve available from the project. However, no details of the model are given and we have no way to validate the model results given in Table D.6-1 or the statement that the project would produce 8,322 to 14,559 MWh/year of spin capacity. The final license application will need to include the details on the model and a clear explanation of the results. Additionally, the spinning operation should consider the project hydrology. From June until November, the average inflows exceed the proposed project's hydraulic capacity, so any spinning operation during these months would forego the chance to generate energy. From January till May, the inflows are barely high enough to generate at the minimum hydraulic capacity of one unit; therefore, the project would need to draft reservoir storage to operate as a spinning resource during these months.

Grant Lake Hydroelectric Project

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Schedule A

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Section 6.2 – Estimated Average Annual Value of Power

Section 6.2 reports that Homer Electric Association Inc.’s (HEA) blended cost of power was \$118/MWh in 2014; however, the source of this information is not identified. The final license application should provide a reference for HEA’s blended cost of power, which was used to calculate the project’s potential power benefits.

Exhibit EGeneral

In addition to resource-specific issues discussed below, the draft license application could be considered deficient with regard to section 4.41(f)(3)(i)-(iv) of the Commission’s regulations. For instance, the draft license application did not provide: (1) a description of spatial and temporal distributions, and densities for certain wildlife game species (section 4.41(f)(3)(i)); (2) project impacts, such as possible changes in size, distribution, and reproduction of essential populations (section 4.41(f)(3)(ii)); (3) detail for all proposed measures to protect or enhance fish, wildlife and botanical resources (section 4.41(f)(3)(iii)); or (4) supporting information for mitigation measures (section 4.41(f)(3)(iv)). When filing the final license application, Kenai Hydro, LLC (KHL) must comply with section 4.41(f)(3) of the Commission’s regulations by providing a complete report describing the fish, wildlife, and botanical resources in the vicinity of the project, including the detailed information required in subsections 4.41(f)(3)(i)-(iv) of the Commission’s regulations.

Supporting information for proposed mitigation measures, including information on costs and schedules, is not included in the draft license application and should be incorporated into section 4.12.2, *Cost of Environmental Measures*, in the final license application.

Footnote 1 states that the maps in the draft license application may not accurately represent the proposed project. In the final license application, all figures (including maps), tables, and text should accurately represent the proposed project.

Section 2 – Proposed Action and Alternatives*Section 2.1 – Proposed Action*

Section 2.1.5, Table E.2-2, *KHL proposed environmental measures*, includes administrative permitting processes that are not environmental measures (e.g., section

Grant Lake Hydroelectric Project

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Schedule A

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404 permit, water rights, special use permits). While it is appropriate to acknowledge these processes within the final license application, they do not constitute environmental measures and should not be characterized as such. In contrast, many of the proposed environmental measures identified in section 4 of Exhibit E are not listed in Table E.2-2 (e.g., control water temperature in Grant Creek, provide minimum instream flows in Grant Creek, increase fish habitat in Grant Creek, spawning gravel augmentation, stream channel reconfiguration, conservation of wetland habitat). Each proposed environmental measure should be specifically identified in section 2.1.5.

Section 4 – Environmental Analysis*Section 4.2 – Applicable Laws*

In section 4.2.3, *Endangered Species Act*, the draft license application discusses the pale poppy, a U.S. Forest Service-designated sensitive species. However, section 4.2.3 should only discuss federally threatened and/or endangered species listed under the Endangered Species Act. Other special status species designated by state or federal agencies should be identified and discussed in section 4.7, *Terrestrial Resources*, of the final license application. Additionally, section 4.2.3 does not discuss any federally-listed species. We recognize that the Commission's August 23, 2010 Scoping Document 2 stated that no federally-listed threatened and endangered species are known to occur in the project vicinity. However, that determination was made nearly five years ago. To ensure that no changes have occurred since the issuance of Scoping Document 2, KHL should consult with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to confirm that no federally-listed threatened or endangered species, or critical habitat, occur in the project area or may be affected by the proposed project. The final license application should document any such consultation in section 4.2.3.

Section 4.4 – Geology and Soils

The Commission's Scoping Document 2 identified disposal/dispersion of spoil material resulting from construction of the proposed project facilities as having potential impacts on the surrounding area. However, the draft license application, sections 4.4, *Geological and Soil Resources*, 4.4.2.1, *Project Construction*, and 4.4.3, *Proposed Environmental Measures*, make no mention of spoil materials. So that we may fully evaluate the resource effects construction of the proposed project may have in the project's vicinity, the final license application must describe the methods KHL intends to employ to dispose of or disperse spoil material. The proposed methods should also be described in the proposed Erosion and Sediment Control Plan and, if appropriate, spoils material dispersal areas should be addressed in the final vegetation management plan.

Grant Lake Hydroelectric Project

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Schedule A

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In section 4.4.4, *Cumulative Effects Analysis*, the draft license application states that the availability of the project's access road for public recreation will be determined based on stakeholder input. This same section also states that if public access is provided, the Public Safety Access Plan (PSAP) will address monitoring and maintenance measures related to the project's access road and the associated recreation. We note that if the project's access road is made available for public recreational access, the increased traffic volume may also increase the potential for erosion and sedimentation. As a result, the proposed Erosion and Sediment Control Plan should also include measures to address these potential resource concerns and the measures should be described in the final license application.

Section 4.5 - Water Quality and Quantity

Section 4.5.1.3.2, Figure E.4-12, provides a comparison of daily mean water temperatures in Grant Lake near the proposed intake structure at ten different depths. However, the figure is difficult to interpret due to the significant amount of data presented. Because KHL is proposing to install an intake structure that would be able to draw water from Grant Lake at varying depths, and water temperatures can vary significantly by depth/season and can affect aquatic resources downstream of the proposed project's tailrace, it would be helpful if KHL provided, in the final license application, individual figures that demonstrate daily mean water temperatures for each sampled depth in Grant Lake near the proposed intake structure. We also have a similar comment and request for Figure E.4-13, *A comparison of daily mean water temperatures for shallow depths (< 3 meters) of Grant Lake and Grant Creek*.

Table E.4-14, *Proposed monthly and annual powerhouse flows and watershed inflows for Grant Lake Project*, list the months identified in the table as months 1 through 12. However, it is unclear whether the table utilized a calendar year as its basis (in which case, month 1 would be January) or a water year (in which case month 1 would be October). Therefore, in the final license application, please clarify Table E.4-14.

Section 4.5.2.1, *Water Quantity*, provides some analysis of project effects on aquatic resources as a result of changes to water quantity within Grant Creek, by study reach. To better understand the analysis in the final license application, please demarcate on Figure E.4-5, *Water Quality, Temperature, and Hydrology Study Locations, 2013*, the Grant Creek study reaches; all proposed project facilities, including the proposed bypass; and the location of the hydraulic control that separates Grant Creek from Grant Lake.

The draft license application at Exhibit B, section 2.2.3, *Grant Lake Operation Model*, indicates that an operations model was developed for the proposed project. Exhibit B, section 2.3, *Project Operation During Adverse, Average, and High Water*

Grant Lake Hydroelectric Project

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Schedule A

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Years, generally states that proposed project operations will draw Grant Lake water surface elevation down 13 feet in “winter” (from 703 down to 690 feet NAVD 88) and project operations will maximize winter power production while ensuring that lake levels refill to the water surface elevation of 703 feet NAVD 88. However, in Exhibit E, section 4.5.2.1, *Water Quantity*, there is no discussion or analysis of project effects on water surface elevations of Grant Lake. So that we may better understand the proposed project operational effects on Grant Lake, the final license application should provide simulated monthly water surface elevations and corresponding surface area for Grant Lake under existing and proposed conditions. Additionally, the final license application should consider and address this comparison of lake level conditions in Exhibit E, section 4.9.2, *Aesthetic Resources, Environmental Analysis*.

In section 4.5.2.3, *Temperature*, the draft license application implies the proposed project will be operated to “match natural/ambient water temperature conditions within 1 °C.” If this is KHL’s proposal, this environmental measure should be articulated in section 2.1.5, *Proposed Environmental Measures*. This section also states that by “monitoring water temperatures, the delivery of water through project facilities should be able to match natural/ambient water temperature conditions within 1 °C.” However, the draft license application does not discuss or provide an analysis of how Grant Lake water temperature may be influenced by proposed project operations or how this potential influence may affect the project’s ability to match natural/ambient water temperature conditions in Grant Creek within 1 °C. In addition, section 4.5.2.3 does not describe how the project will physically maintain water temperature at “pre-Project” conditions. The final license application should address these issues and provide model results supporting the analysis.

Section 4.6 – Aquatic Resources

In section 4.6.3, *Proposed Environmental Measures*, the draft license application provides a general summary of some, but not all of the proposed aquatic environmental measures. This section of the application must describe how each proposed measure would protect or enhance the existing environment. Where possible, this section should also provide a quantification of the anticipated benefit of each proposed measure. While some of this information is provided in section 4.6.2, *Environmental Analysis* (e.g., available weighted usable area pre- and post-project), not all of the proposed environmental measures are discussed in any detail in either section. For example, section 4.6.2, *Environmental Analysis*, of the draft license application states “[t]his analysis does not take into consideration potential mitigation and enhancement measures for the Project” and it provides an example of a proposed enhancement measure to reconfigure the Grant Creek stream channel to allow more water into a distributary at lower flows in Grant Creek in an effort to provide significantly greater habitat within the

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distributary. However, as stated, there is no analysis or quantification in the draft license application to support the statement in section 4.6.2, and the proposed measure is not discussed in section 4.6.3. Section 4.41(f)(3) of the Commission's regulations requires that the license application describe the mitigation, enhancement, or protection measures proposed by the applicant. Therefore, the final license application must describe each proposed resource measure and how each measure would protect or enhance the existing environment including, where possible, quantification of the anticipated benefit(s) of each proposed measure. If this type of information is not included in the final license application, the application may be found deficient.

Section 4.6.4, *Cumulative Effects Analysis*, of the draft license application states that KHL's fishery studies concentrated on Grant Creek and the Trail Lakes Narrows Area because of the lack of fishery resources in Grant Lake. Section 4.6.1, *Affected Environment*, states that waterfalls pose a barrier to upstream migration of fish and, as a result, study reach 6 in Grant Creek and Grant Lake were not included in recent research efforts. However, section 4.6.1 does not present any historical (or current) data that describes aquatic resources (existing or non-existing) within reach 6 or Grant Lake. In Scoping Document 2, we noted that: (1) fish and aquatic resources in Grant Lake may be affected by project construction and operation, (2) fish populations in Grant Lake, and subsequently Grant Creek, may be affected by entrainment at the project; and (3) project operations may result in a loss of habitat connectivity and bi-directional passage for resident fish populations in Grant Lake and Grant Creek. Section 4.41(f)(3) of the Commission's regulations require that the license application describe the fish, wildlife, and botanical resources in the vicinity of the proposed project; expected impacts of the project on these resources; and mitigation, enhancement, or protection measures proposed by the applicant. Therefore, the final license application must describe the existing aquatic resources in Grant Lake and address any potential project effects on aquatic resources there (i.e., all aquatic species of interest and their habitats), and any proposed environmental measure intended to address those effects. If this information is not included in the final license application, the application will likely be found deficient.

Section 4.7 Terrestrial Resources

Our Scoping Document 2 identified potentially substantive project effects on increased access to harvestable wildlife. Section 4.8.2.1, *Recreation*, states that project impacts include a possible increase in hunting and fishing pressure as a result of the proposed access road that would more easily facilitate access to Grant Lake. However, the draft license application also discusses uncertainty as to whether the project will provide public access to the project area. Because such public access will affect access to harvestable wildlife, the final license application should provide updated information in accordance with the final project proposal on public access and any additional

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infrastructure proposed to accommodate such access. More broadly, the license application should also provide updated information for any other effects to terrestrial resources that might be caused by public access and any associated infrastructure accommodating such access. Similarly, section 4.8.2.3, *INHT* (Iditarod National Historic Trail), provides information regarding the potential re-routing of the trail. If the project would cause the Iditarod National Historic Trail to be re-routed, the final license application should identify any associated potential incremental project effects on terrestrial resources, as well as recreation, cultural and aquatic resources.

Section 4.41(f)(3)(i) of the Commission's regulations requires a description of spatial and temporal distributions and densities of species considered important because of their commercial or recreational value. Section 4.8.1.1.1, *Recreation Facilities*, states that hunting in the Grant Lake area is open for "black bear, brown bear, caribou, Dall sheep, moose, mountain goat, wolf, and wolverine." However, section 4.7.1.3, *Wildlife*, provides various levels of description for only some of these species. In addition, section 4.7.1.3.3, *Terrestrial Mammals*, states that Dall sheep habitat "does not likely occur in the Project Area"; however, no reasoning is provided to support this conclusion. The final license application should include additional descriptions for wildlife communities that may be affected by the proposed project, including information pertaining to species that are considered important because of their commercial or recreational value. KHL may reference existing data sources and literature reviews on species' habitat and distributions to obtain these descriptions. If this information is not included in the final license application, the application may be found deficient.

Section 4.7.2.3, *Wildlife*, utilizes the factor of vegetation to qualitatively assess species presence and the overall impact of the project on wildlife resources. For instance, section 4.7.2.3.1, *Potential Impacts to Raptors*, states that the removal of vegetation affects raptors in several ways that include loss of old growth trees for nesting platforms and perches. While such analyses are generally informative, they do not provide detailed information necessary to analyze project effects. So that we may fully evaluate the resource effects the proposed project might have, the final license application must evaluate possible changes in size, distribution, and reproduction of essential populations of wildlife resources and any impacts on human utilization of these resources, as described in section 4.41(f)(3)(ii) of the Commission's regulations.

Scoping Document 2 identified potentially substantial effects pertaining to the impact of spoil materials on surrounding areas. While section 4.7.2, *Environmental Analysis*, lists fill material placement as a direct impact to vegetation, wetlands, and waters, it is unclear whether the draft license application specifically accounts for the effects of spoil material placement on terrestrial resources. The final license application should identify the potential effects spoil material placement may have on terrestrial

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resources, and should describe any proposed measures to protect resources from such effects.

Our Scoping Document 2 identified potentially substantive project effects on wildlife critical life stages, distribution, and abundance for specific wildlife species designated by the Forest Service and the State of Alaska as Management Indicator Species, Species of Special Interest, and Species of Special Concern. Section 4.7.2.3, *Wildlife*, provides a qualitative description of anticipated project effects on wildlife resources, but does not fully describe how the project would affect wildlife critical life stages (such as egg incubation in avian species, and juveniles and breeding adults). In addition, the draft license application does not describe whether/how the project would affect the distribution and abundance of all species listed in Scoping Document 2. The final license application should identify potentially substantive project effects on species listed in Scoping Document 2.

Scoping Document 2 also identified potentially substantive project effects on the availability of fish as food for wildlife. Section 4.7.2.3, *Wildlife*, does not provide an environmental analysis of how the project-related impacts on fisheries affect the availability of fish as food for wildlife. The final license application should describe the project effects on the availability of fish as food for wildlife, as discussed in Scoping Document 2.

Scoping Document 2 also identified potentially substantive project effects on wildlife movement as well as displacement and disruption of seasonal movement patterns through the project area. The draft license application provides only qualitative information on the movement of avian species and terrestrial mammals. Section 4.7.2.3, *Wildlife*, provides similar assessments for all wildlife species that are discussed by KHL; namely, that activities related to construction, project operation, forest removal and anthropogenic access may cause species that are sensitive to disturbance to move to other less-disturbed areas (see draft license application, section 4.7.2.3.1, *Potential Impacts to Raptors*; section 4.7.2.3.2, *Potential Impacts to Breeding Birds and Shorebirds*; section 4.7.2.3.3, *Potential Impacts to Waterbirds*; and section 4.7.2.3.4, *Potential Impacts to Terrestrial Mammals*). Additional information should be provided on the effects of project construction and operations on wildlife movement. For instance, additional analysis could be provided on wildlife movement caused by: noise and lighting during project construction; project operations and maintenance; and anthropogenic access. Also, beyond labeling “sensitive” and “shy” species, the draft license application does not account for differences in wildlife behavioral patterns associated with dispersal habits, territorial distributions, habitat requirements, and predator-prey dynamics. These and other factors could result in potentially substantive project effects for some species, but not others, throughout the various project phases. The final license application should

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describe project effects on wildlife movement as well as displacement and disruption of seasonal movement patterns through the project area.

Scoping Document 2 also identified potentially substantive project effects on: breeding and rearing habitat, and nesting success of shorebirds and waterfowl; and other avian use in and around Grant Lake and Inlet Creek. Section 4.7.2.3.2, *Potential Impacts to Breeding Birds and Shorebirds*, and section 4.7.2.3.3, *Potential Impacts to Waterbirds*, provide a qualitative analysis of project effects to conclude that vegetation removal may impact nesting, foraging, and cover habitat for shorebirds and waterfowl. However, this broad, qualitative analysis does not allow for an assessment of potential project effects. For instance, the draft license application does not provide sufficient information to assess the effects of project construction and operations on species with different behavioral patterns. The final license application should provide additional information on potentially substantive project effects on: breeding and rearing habitat, and nesting success of shorebirds and waterfowl; and other avian use in and around Grant Lake and Inlet Creek, as discussed in Scoping Document 2.

Section 4.7.3, *Proposed Environmental Measures*, provides only general references to best management practices and mitigation strategies that are being proposed by KHL. The final license application should include a description of proposed measures for protecting resources.

Section 4.7.3.2, *Wetlands*, proposes to apply mitigation for the loss of approximately 0.49 acre of wetlands/waters as part of project construction and operations. However, the environmental analysis in section 4.7.2.2, *Wetlands*, states that the project will cause permanent, direct impacts to 1.91 acres of wetlands and permanent, indirect impacts to 18.18 acres of wetlands. So that we may fully evaluate the proposed measures for protecting wetland resources, the final license application should discuss the basis for limiting wetland mitigation to 0.49 acre. In addition, the proposed mitigation for project-induced wetlands loss should be summarized in section 2.1.5, *Proposed Environmental Measures*.

Section 4.8 – Recreation and Land Use Resources

Section 4.8.1.2.3, *Chugach National Forest Revised Land and Resource Management Plan*, of the draft license application states that the areas north and east of the lake are managed as backcountry, and that the Grant Lake/Ptarmigan unit is designated for motorized use. However, section 4.8.2.2, *Land Use*, states that backcountry areas are only available for non-motorized recreation. Please clarify these statements and consider providing maps if possible.

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Section 4.8.2.1.4, *Hunting and Fishing*, of the draft license application states that hunters gain access to Grant Lake via float plane. Please clarify whether float planes would still have adequate surface area to land on Grant Lake at the proposed project's minimum reservoir elevation of 690 ft msl.

Section 4.8.2.1.1, *Winter Use*, of the draft license application indicates that snowmobiling on Grant Lake during the winter is possible. Please provide the approximate dates when sufficient ice cover is present on Grant Lake to support snowmobiling.

Section 4.8.2.1.5, *Noise*, of the draft license application reports the current noise environment of the proposed project area and estimates how vehicle traffic at the project may affect the baseline noise environment. However, KHL does not report an estimate or provide an analysis on the noise the powerhouse will produce. In the final license application, please provide an analysis for the powerhouse and other project facilities that could produce noise.

Section 4.8.3.1, *Recreation*, states that a Public Safety and Access Plan (PSAP) will be submitted with the final license application, if public access is determined to be warranted. However, the description of the PSAP is more in line with a traditional Recreation Management Plan (RMP). A traditional public safety plan is separate from a RMP and generally filed post-licensing with the Commission's Division of Dam Safety and Inspections (for guidance on preparing public safety plans you may review the Guidelines for Public Safety at Hydropower Projects on the FERC website).¹ To reduce confusion once the final license application is filed, please refer to the plan managing recreation (including the identification of recreation sites, recreation facilities, recreation amenities, recreation monitoring, and rules and regulations regarding recreation) as a RMP.

Section 4.8.3.1, *Recreation*, also describes a number of possible environmental measures for recreation and land use at the project, but stops short of proposing any specific measures. If KHL decides to propose any of these possible environmental measures in its final license application, specific items that should be addressed include:

- (1) Will boat access to Grant Lake be provided? If so, will access be provided for motor boats or car top boats only?
- (2) If parking will be provided, where will it be located and how many spots will each lot contain for single cars and cars with trailers?

¹ <http://www.ferc.gov/industries/hydropower/safety/guidelines/public-safety.pdf>.

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- (3) Will access to the project be limited by season? If so, what season(s) will access be limited and how will access be limited? If access is limited, and if a gate will be used, where would the gate be placed?
- (4) Will there be pull-offs along the access road? If so, what are the number, location, and size of the pull-offs?
- (5) Will restrooms be provided? If so, please describe the type and seasonal availability.
- (6) Will signage and interpretation be located at the project?

In section 4.8.3.3, *INHT* (Iditarod National Historic Trail), KHL states their willingness to bear the costs of any expenses related to trail construction that would exceed that necessary for the existing alignment of the INHT, and also states a willingness to address re-platting of the easement as necessary to provide the trail alignment and the associated 1,000-foot wide easement. However, the draft license application does not include an estimated cost for these potentially proposed measures. In the event KHL deems it appropriate to propose these measures in the final license application, it should also include detailed cost estimates for the construction and/or maintenance of the INHT, including any necessary infrastructure (e.g., bridges, parking areas, signage, etc.) in section 4.12.2, *Cost of Environmental Measures*. Additionally, the draft license application is unclear on whether or not a parking area would be included to provide access to the INHT, and whether the INHT would be considered a project recreation asset or non-project use of project lands. Please clearly state in the final license application whether KHL proposes to consider the INHT as part of the project's recreation.

In addition, any proposed recreational enhancements at the project should be summarized in section 2.1.5, *Proposed Environmental Measures*.

Section 4.9 – Aesthetic Resources

In section 4.9.3, *Proposed Environmental Measures*, the draft license application states that most construction work would be conducted during the summer months to reduce or eliminate light intrusion. If preventing light intrusion is important during the construction phase, it is likely to also be important during the operation phase of the project. However, section 4.9.2.3.1, *Project Effects*, does not discuss environmental effects associated with light intrusion/pollution during project operation. The final license application should address this potential concern and if appropriate, section 4.9.3 of the final license application should describe any measures proposed to address light intrusion/pollution during project operation.

Document Content(s)

P-13212-000Letter3.DOC.....1-14

From: Warnock, Cory
Sent: Wednesday, June 17, 2015 12:34 PM
To: Kenneth Hogan; Mike Salzetti
Cc: Timothy Konnert; Frank Winchell; Nicholas Tackett; Adam Beeco; James Fargo; Alan Mitchnick; Andersen, Emily
Subject: RE: General Correspondence issued in FERC P-13212-000

Hi Ken,

I was just giving your comments a quick, initial review. We really appreciate the level of effort and input from FERC staff at this phase. The comments will assist greatly in making the FLA as comprehensive and complete as it can be.

With respect to a call, I think it would be very beneficial at the right time. I'd like us to get a bit further along in the global review of all of the comments we end up receiving by June 25th and at that time will likely be in touch with the appropriate KHL staff to set something up. Again, thanks to you and all that participated in your review.

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

-----Original Message-----

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Wednesday, June 17, 2015 12:21 PM
To: Warnock, Cory; Mike Salzetti
Cc: Timothy Konnert; Frank Winchell; Nicholas Tackett; Adam Beeco; James Fargo; Alan Mitchnick
Subject: FW: General Correspondence issued in FERC P-13212-000

Hi Mike and Cory,

Today, we issued our comments on The draft license application (DLA) for the Grant Lake Project (see link below). These comments do not include comments that we may have on the draft resource management plans filed subsequent to the DLA.

If upon review of our comments on the DLA, you would like to meet with the FERC team that reviewed the DLA and provided the comments, please let me know and I'll set up a teleconference/meeting.

Ken

http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20150617-3041

Kenneth Hogan | Fishery Biologist | Federal Energy Regulatory Commission | 888 First Street, N.E., Washington, DC 20426
| 202-502-8434 | -----Original Message-----
From: 'FERC eSubscription' [mailto:eSubscription@ferc.gov]
Sent: Wednesday, June 17, 2015 2:46 PM
Subject: General Correspondence issued in FERC P-13212-000

On 6/17/2015, the Federal Energy Regulatory Commission (FERC), Washington D.C., issued this document:

Docket(s): P-13212-000

Lead Applicant: Kenai Hydro, LLC

Filing Type: General Correspondence

Description: Letter to Kenai Hydro, LLC re the Review of Draft License Application for the Proposed Grant Lake Hydroelectric Project; Identification of Potential Deficiencies and Additional Information Needs under P-13212.

To view the document for this Issuance, click here

http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20150617-3041

To modify your subscriptions, click here: <https://ferconline.ferc.gov/eSubscription.aspx>

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or for phone support, call 866-208-3676.

Comments and Suggestions can be sent to this email address: <mailto:FEROnlineSupport@Ferc.gov>

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail /One on One Meeting Log

Contact Name: Rober Stovall

Agency/Organization: USFS

Phone No./E-mail Address: 907-743-9474

Date: 6/17/15

Time: 11:15 am PST

Grant Lake Licensing Team Contact: Cory Warnock

Summary of Conversation and/or E-mail Exchange: Mr. Warnock returned a call from Mr. Stovall who wanted to confirm the expectations associated with commenting on the Grant Lake DLA. He wanted to verify that the DLA comments were due on 6/25/15 and that that comments related to management plans were due 7/15/15. Mr. Warnock confirmed both dates. Mr. Stovall also stated that incorporated into the comments on the DLA, the USFS planned on providing preliminary proposed terms and conditions.

Call Time – Approximately 5 minutes

151 FERC ¶ 61,243
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;
Philip D. Moeller, Cheryl A. LaFleur,
Tony Clark, and Colette D. Honorable.

Kenai Hydro, LLC

Project No. 13212-004

ORDER DENYING REHEARING

(Issued June 18, 2015)

1. On February 27, 2015, Commission staff issued an order (February 27 Order) denying Kenai Hydro LLC's (Kenai Hydro) request for a ten-month extension of its second preliminary permit for the proposed Grant Lake Project No. 13212 (Grant Lake Project).¹ The proposed project would be located on Grant Lake and Grant Creek, near the town of Moose Pass, in Kenai Peninsula Borough, Alaska and would occupy federal lands managed by the Chugach National Forest. On March 27, 2015, Kenai Hydro filed a timely request for rehearing of the February 27 Order. This order denies the request for rehearing.

I. Background

2. On October 7, 2008, Commission staff issued Kenai Hydro a preliminary permit to study the proposed Grant Lake Project.² The project would generate power using water from Grant Lake that would be diverted by a new concrete intake structure. The diverted flows would then pass through a 3,300-foot-long tunnel and penstock to a powerhouse located near the outlet of a natural rock canyon in Grant Creek. The powerhouse would contain two turbines with a combined installed capacity of 5 megawatts (MW).

3. During the permit term, Kenai Hydro initiated engineering and environmental studies, held public stakeholder meetings, and began consulting with state and federal agencies. Kenai Hydro began field studies in the summer of 2009, continuing them during the summer of 2010. On August 6, 2009, Kenai Hydro filed a Notice of Intent

¹ *Kenai Hydro, LLC*, 150 FERC ¶ 62,115 (2015).

² *Kenai Hydro, LLC*, 125 FERC ¶ 62,018 (2008).

(NOI) to file a license application, a Pre-Application Document (PAD), and a request to use the Traditional Licensing Process to prepare its final license application for the proposed project.³ Field studies were suspended in August of 2010 pending the resolution of issues raised in comments received on Kenai Hydro's proposed revisions to its study plans.⁴ The permit expired on September 30, 2011, and on October 3, 2011, Kenai Hydro filed an application for a successive permit.

4. On March 23, 2012, Commission staff, finding that the Kenai Hydro had pursued development of the project with due diligence during its permit term, issued a successive preliminary permit to Kenai Hydro.⁵ During the second permit term, Kenai Hydro continued consultation with state and federal agencies, finalized its study plans, and secured certain permits required for the 2013 field season. Through the spring, summer, and fall of 2013, Kenai Hydro conducted on-site biological studies on aquatics, water quality/quantity, terrestrial resources, recreation, visual resources, and cultural resources. Kenai Hydro then evaluated the study data and compiled study reports.⁶

5. On January 27, 2015, Kenai Hydro filed a timely request for a ten-month extension of its successive preliminary permit.⁷

6. On February 27, 2015, Commission staff denied Kenai Hydro's requested extension, stating that the Commission will not authorize the reservation of a site under a preliminary permit for a period longer than six years (two preliminary permit terms) to the same applicant, for the same site, unless some extraordinary circumstance or factor outside the control of the permittee is present.⁸ The order stated that Kenai Hydro had failed to demonstrate any extraordinary circumstance or factor outside its control during

³ The Commission's regulations for hydropower development applications establish three separate application processes: the integrated licensing process, the alternative licensing process, and the traditional licensing process. *See generally*, 18 C.F.R. Part 4, Subpart D (traditional process), 18 C.F.R. § 4.34(i) (alternative process), and 18 C.F.R. Part 5 (integrated process) (2014).

⁴ Kenai Hydro's March 31, 2011 Progress Report at 1.

⁵ *Kenai Hydro*, 138 FERC ¶ 62,297 (2012).

⁶ Kenai Hydro's February 26, 2014 Progress Report at 1-4.

⁷ Section 4.82(c) of the regulations, 18 C.F.R. § 4.82(c) (2014) (requests to extend permit term must be filed with the Commission at least 30 days before permit expires).

⁸ *Kenai Hydro*, 150 FERC ¶ 62,115 at P 5.

its second permit term that prevented it from filing a license application, and explained that allowing Kenai Hydro to reserve the project site for more than six years would constitute site banking.⁹

7. Kenai Hydro's second permit expired on February 28, 2015.

8. On March 27, 2015, Kenai Hydro filed a request for rehearing of the February 27 Order, and, separately, a draft license application for the Grant Lake Project. In its request for rehearing, Kenai Hydro alleges that Commission staff applied the wrong legal standard and erred in its finding that extending the permit term for ten months would contribute to site banking. Kenai Hydro also contends extraordinary circumstances outside its control prevented it from filing a license application.

9. On April 20, 2015, the Kenai River Watershed Foundation submitted comments recommending denial of rehearing due to its concerns about the competency of Kenai Hydro to study and develop a hydroelectric facility.¹⁰

II. Discussion

10. Section 4(f) of the Federal Power Act (FPA) authorizes the Commission to issue preliminary permits to potential license applicants.¹¹ Section 5(a) explains that such permits "shall be for the sole purpose of maintaining priority of application for a license ... for such period or periods, not exceeding a total of three years."¹² In 2013, Congress amended the FPA to provide that "[t]he Commission may extend the period of a preliminary permit once for not more than 2 additional years beyond the 3 years permitted by [section 5(a)] if the Commission finds that the permittee has carried out activities under such permit in good faith and with reasonable diligence."¹³

⁹ *Id.* P 7, n.4 (citing *Cascade Creek, LLC*, 140 FERC ¶ 61,221, at P 27 (2012)).

¹⁰ Commission regulations provide that an answer may not be made to a request for rehearing, unless the decisional authority orders otherwise. 18 C.F.R. §§ 385.213(a)(2), 385.713(d) (2014). The Foundation did not ask for waiver of the regulations, and we see no reason to allow the answer.

¹¹ 16 U.S.C. § 797(f) (2012).

¹² *Id.* § 798 .

¹³ The Hydropower Regulatory Efficiency Act of 2013, Pub. L. No. 113-23, § 5, 127 Stat. 493, 495 (2013) (codified as amended at 16 U.S.C. § 798(b)).

11. The FPA does not specify how many preliminary permits an applicant may receive for the same site. However, it is Commission policy to grant a successive (second) permit only if it concludes that the applicant has pursued the requirements of its prior permit in good faith and with due diligence.¹⁴ The Commission's policy is to grant a third preliminary permit (i.e., a second successive permit) only when the permittee has demonstrated that extraordinary circumstances or factors outside of its control prevented it from filing a license application during the second permit term.¹⁵

12. In most cases, one preliminary permit term of three years should be enough time to consult with resource agencies and conduct any studies necessary to prepare a development application, and six years should be more than enough time. In the absence of extraordinary circumstances, allowing a site to be reserved for more than six years would violate the Commission's longstanding policy against site banking.¹⁶

A. Extensions of Successive Permits

13. On rehearing, Kenai Hydro argues that Commission staff erred in its February 27 Order by using an incorrect legal standard to evaluate Kenai Hydro's request for a ten-month extension. Kenai Hydro claims that instead of the extraordinary circumstances standard, Commission staff should have used the "good faith and reasonable diligence" standard articulated in the 2013 Act.

14. We disagree. The Commission reviews applications for a second permit under a good faith and reasonable diligence standard and applies an extraordinary circumstances

¹⁴ See, e.g., *Greybull Valley Irrigation Dist.*, 143 FERC ¶ 61,131, at P 8 (2013) (citing *City of Redding, Cal.*, 33 FERC ¶ 61,019 (1985) (permittee must take certain steps, including consulting with the appropriate resource agencies early in the permit term, and timely filing six-month progress reports)); *Cascade Creek, LLC*, 140 FERC ¶ 61,221 at P 24.

¹⁵ See, e.g., *Pine Creek Mine, LLC*, 148 FERC ¶ 61,027, at P 14 (2014); *Sutton Hydroelectric Company LLC*, 147 FERC ¶ 61,039, at P 17 (2014); *Greybull Valley Irrigation District*, 143 FERC ¶ 61,131 at PP 14-15.

¹⁶ The essence of the Commission's policy against site banking is that an entity that is unwilling or unable to develop a site should not be permitted to maintain the exclusive right to develop it. See *Cascade Creek, LLC*, 140 FERC ¶ 61,221 at P 27; See also *Idaho Power Co. v. FERC*, 767 F.2d 1359, 1363 (9th Cir. 1985) (finding that the Commission's conclusion that site banking is inconsistent with the FPA is "not only clearly reasonable" but also supported by the terms of the FPA).

test in evaluating applications for third permits.¹⁷ As the Commission recently explained, in enacting section 5(b)'s good faith standard, "Congress was only contemplating extensions to initial permits, and adopted the test that the Commission had already established for second permits."¹⁸ Nothing in the 2013 Act suggests that Congress intended the Commission to apply a lower standard to other extensions, regardless of how long an entity had previously held a permit. Indeed, such a reading would lead to the anomalous result that the Commission would apply an extraordinary circumstances test in issuing a third permit and then be required to revert to a lower standard in reviewing a request to extend that permit.¹⁹ Put another way, Kenai Hydro would have the Commission's standard of review turn on whether a party seeks to extend its exclusive development rights beyond six years through a permit extension or via a second successive permit. Nothing in section 5 – which provides that the Commission may extend permit terms "once for not more than 2 additional years beyond the 3 year[]" preliminary permit term – supports this result. Accordingly, we conclude that staff was correct in applying an extraordinary circumstances standard in reviewing Kenai Hydro's application to extend its successive (second) permit.

B. No Extraordinary Circumstances

15. Kenai Hydro contends that the February 27 Order failed to recognize that Kenai Hydro's progress in developing the project was delayed by extraordinary circumstances. Kenai Hydro explains that the remote section of Alaska where its proposed project would be located is "fraught with extraordinary circumstances" outside of a permittee's control.²⁰ It states that the project study area is generally only accessible by plane or boat, and then only between the months of May and October, when ice on nearby lakes has melted. Kenai Hydro explained that, while some winter access to the site is possible via snowshoe and wading, the majority of fieldwork must occur during those months.²¹ For these reasons, Kenai Hydro maintains that it only had access to the proposed project site during half of the term of its second preliminary permit.

¹⁷ *Pine Creek Mine, LLC*, 148 FERC ¶ 61,027 at P 17; *Sutton Hydroelectric Company, LLC*, 147 FERC ¶ 61,039 at P 17.

¹⁸ *Pine Creek Mine*, 148 FERC ¶ 61,027 at P 17.

¹⁹ *Pine Creek Mine, LLC*, *supra* note 15, at P 17.

²⁰ Kenai Hydro's March 27 Rehearing Request at 13.

²¹ *Id.*

16. Kenai Hydro raises the issue of limited site access for the first time in its March 27 rehearing request. Its progress reports and extension request fail to mention any difficulty gaining access to the project site during the terms of its permits. Rather, Kenai Hydro's progress reports indicate that it suspended field studies in August 2010 (more than a year before its first permit expired on September 30, 2011), in order to review comments received on the proposed study plans and revise its study program. During its second permit term, Kenai Hydro explained that bids for the summer 2012 study season were unexpectedly high and lacking the detail required to adequately develop a contract. As a result, Kenai Hydro re-issued its request for proposals in May 2012 and adjusted its schedule to resume resource studies in March 2013.²² Kenai Hydro's progress reports indicate that it performed no fieldwork between August 2010 and March 2013.

17. Even if Kenai Hydro had alleged in its progress reports or request for extension that it was unable to develop a license application because of its inability to access the project site during portions of its second permit term, we would still find this argument unpersuasive in evaluating its request for a permit extension. While the Commission is sympathetic to the challenges associated with developing a project in a remote location with harsh conditions, we do not believe that these circumstances rise to the level of extraordinary. We have previously stated that the issue of obtaining access to the site for the performance of studies is one for the permittee to address.²³ We also note that the company does not allege that conditions during the six years it held a permit were in any way out of the ordinary. As discussed above, Kenai Hydro has held preliminary permits for this proposed project for more than six years, and should have been well aware of, and able to adequately prepare for, the challenges posed by developing a project in a remote area that is frozen much of the year.

III. Conclusion

18. For the reasons discussed above, we deny rehearing and affirm our denial of Kenai Hydro's request for an extension of its successive preliminary permit. We note, however, that our denial does not constitute a judgment on the merits of Kenai Hydro's proposed project, or prejudice in any way whether the Commission would ultimately issue a license for the project. Furthermore, we note that holding a preliminary permit is not a prerequisite to pursuing a development application, so that Kenai Hydro remains free to pursue development of the Grant Lake Project and to file a final license application.

²² Kenai Hydro's August 27, 2013 Progress Report at 1.

²³ *Carex Hydro*, 36 FERC ¶ 61,031, at 61,069 (1986). See also *Green Energy Storage Corp.*, 148 FERC ¶ 62,105, at P 5 (2014), 150 FERC ¶ 61,042, at P 12 (2015) (order rescinding preliminary permit).

Project No. 13212-004

- 7 -

Indeed, Commission staff is currently reviewing Kenai Hydro's draft license application, and the licensing process can continue regardless of our finding here.

The Commission orders:

Kenai Hydro LLC's March 27, 2015 rehearing request is denied.

By the Commission. Commissioner LaFleur is dissenting with a separate statement attached.

(S E A L)

Kimberly D. Bose,
Secretary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Kenai Hydro, LLC

Project No. 13212-004

(Issued June 18, 2015)

LaFLEUR, Commissioner, *dissenting*:

In today's order, the Commission denies Kenai Hydro's request to maintain, for only approximately six more months from the date of this order, development priority for the site of its proposed Grant Lake Project while Kenai Hydro finalizes work on its license application. The Commission concludes that granting Kenai Hydro's request would violate the Commission's policy against site banking, which seeks to prevent entities that are unwilling or unable to develop a site from maintaining the exclusive right to develop it. I do not agree that this policy requires the denial of Kenai Hydro's request, as I believe that the Commission has the discretion and authority under the Federal Power Act to grant Kenai Hydro's extension, and that Kenai Hydro has amply demonstrated both its willingness and ability to develop the site. Over the course of its second preliminary permit, and despite being able to meaningfully access the site only a few months each year, Kenai Hydro conducted on-site biological studies on aquatics, water quality/quantity, terrestrial resources, recreation, visual resources, and cultural resources. Kenai Hydro then evaluated the study data and compiled study reports which were submitted to the Commission over the summer of 2014. Kenai Hydro offered opportunities for public comment on these surveys in November 2014, before the end of its secondary preliminary permit. That work culminated in Kenai Hydro filing its draft license application with the Commission on March 27, 2015, in anticipation of submitting a license application by the end of 2015.

The Commission's action today – which unnecessarily exposes Kenai Hydro to the potential loss of license application priority for the Grant Lake Project site – will not encourage the development of new hydroelectric facilities, nor will it further the Commission's policy against site banking, given the limited duration of Kenai Hydro's request and its significant progress towards the filing of a license application mere months from now.

Accordingly, I respectfully dissent.

Cheryl A. LaFleur

Document Content(s)

P-13212-004.DOCX.....1-8

From: Duvall, Shina A (DNR) <shina.duvall@alaska.gov>
Sent: Friday, June 19, 2015 6:24 PM
To: Michael Yarborough; Bittner, Judith E (DNR); Sherry Kime; Frank Winchell; Schick, Lesli J (DNR); Mark Luttrell; jbrune@ciri.com
Cc: Mike Salzetti; Warnock, Cory; Andersen, Emily
Subject: RE: Grant Lake Hydroelectric Project (FERC No. 13212) Historic Properties Management Plan
Attachments: PRIVGrant Lake HPMP draft 05-15-15 FINAL_AKSHPO061915.pdf

All,

Please see the attached, which includes comments from our initial review of this Draft HPMP. I apologize for the format – I had to convert it to Word in order to track comments/changes and then reconvert it back to a PDF because of size limitations. Once the final draft is ready following the receipt of other consulting party comments, please resend it to me and I will place it in the queue for our committee to review. At that time and if possible, it should be accompanied by a draft Section 106 MOA.

Best regards,
Shina

Shina duVall, RPA
Archaeologist, Review and Compliance Coordinator
Alaska State Historic Preservation Office / Office of History and Archaeology
550 W. 7th Ave., Suite 1310
Anchorage, Alaska 99501
907-269-8720 (phone) 907-269-8908 (fax)
shina.duvall@alaska.gov

From: Michael Yarborough [mailto:salvagerecovery@gmail.com]
Sent: Friday, May 15, 2015 4:18 PM
To: Bittner, Judith E (DNR); Duvall, Shina A (DNR); Sherry Kime; Frank Winchell; Schick, Lesli J (DNR); Mark Luttrell; jbrune@ciri.com
Cc: Mike Salzetti; Warnock, Cory; Andersen, Emily
Subject: Grant Lake Hydroelectric Project (FERC No. 13212) Historic Properties Management Plan

All

I am sending this email on behalf of Homer Electric Association, Inc. (HEA) to invite comment on a draft Historic Properties Management Plan (HPMP) for the Grant Lake Hydroelectric Project. Our last discussion, on March 21, 2014, focused on review of past consultation, the 2014 cultural resources study report, and the Iditarod National Historic Trail (INHT).

An electronic version of the HPMP is attached to this email. HEA will also be distributing other management and monitoring plans for review later today. The Draft License Application (DLA) has been filed with FERC and distributed via multiple mechanisms to stakeholders and the interested public on March 27, facilitating a 90-day review period, with comments due on or before June 25, 2015. As part of that transmittal, KHL made a commitment to distribute the draft management/monitoring plans and biological evaluation soon thereafter to allow enough time for a parallel review and comment period.

HEA requests that all comments on the HPMP also be submitted on or before June 25, 2015.

We are not currently planning another Cultural Resources Working Group meeting, in part due to the difficulty of finding a time when all the members of the group could attend. However, an in-person or teleconference meeting can be arranged in the future if members of the group feel it would be beneficial.

Thank you in advance for your ongoing participation,

Mike

--

Michael R. Yarborough
Senior Archeologist
Cultural Resource Consultants LLC
3504 E. 67th Avenue
Anchorage, Alaska 99507
Anchorage: (907) 349-3445
Cell: (907) 306-6069

NOTE: Because of the potentially sensitive nature of the information regarding cultural resources, the draft Historic Properties Management Plan containing the SHPO's comments attached to the June 19, 2015 email is not being distributed to the general public. This document may be obtained by request to Homer Electric Association (HEA) or Federal Energy Regulatory Commission (FERC), subject to confidentiality provisions.

From: Warnock, Cory
Sent: Wednesday, June 24, 2015 12:09 PM
To: Andersen, Emily
Subject: FW: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline
Attachments: 2015_06_24_DNR comments.pdf

From: Schick, Lesli J (DNR) [mailto:lesli.schick@alaska.gov]
Sent: Wednesday, June 24, 2015 12:05 PM
To: Warnock, Cory; Salzetti, Mikel (MSalzetti@HomerElectric.com)
Cc: Thomas, Ryan J (DNR); Russell, Pamela J (DNR); Griffin, David W (DNR); Moore, Eric A (DNR); Reese, Carl D (DNR)
Subject: RE: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

Hi Cory,

Attached are the draft license application comments submitted today from the Department of Natural Resources for the Grant Lake Project. They are combined comments from the Division of Mining, Land and Water and the Division of Parks and Outdoor Recreation.

Please let me know if you have any questions.

Sincerely,
-lesli

Lesli Schick
Department of Natural Resources
550 W 7th Ave, Suite 900C
Anchorage, AK 99501
Phone: (907) 334-2679, Fax: (907) 269-8930
Email: lesli.schick@alaska.gov

From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Wednesday, June 10, 2015 2:12 PM
To: Miller, Monte D (DFG); Berkhahn, Patricia G (DFG); Klein, Joseph P (DFG); Litchfield, Virginia P (DFG); Mouw, Jason E B (DFG); Begich, Robert N (DFG); Bittner, Judith E (DNR); Duvall, Shina A (DNR); Reese, Carl D (DNR); Schade, David W (DNR); Schick, Lesli J (DNR); Swinford, Robin E (DNR); Thomas, Ryan J (DNR); Fishergoad, Sara L (AIDEA); Hertrich, Daniel J (AIDEA); Griffin, David W (DNR); Russell, Pamela J (DNR); jseebach@americanrivers.org; kkeeler@blm.gov;

hshepherd@uci.net; jbrune@ciri.com; 'Gary Fandrei'; keeper@inletkeeper.org; painter@arctic.net; douglas_mutter@ios.doi.gov; phillip_johnson@ios.doi.gov; joe.darnell@sol.doi.gov; 'Ken Hogan'; 'frank.winchell@ferc.gov'; douglas.johnson@ferc.gov; 'mcooney@arctic.net'; 'kenailake@arctic.net'; 'Paul Torgerson (paul@grantlakemining.com)'; 'jjh@seward.net'; jaffa@eagle.ptialaska.net; kna@alaska.net; ricky@krsa.com; 'exec@kenaitze.org'; 'Brenda Trefon'; mmueller@kpb.us; ikerdhome@gmail.com; DMahalak@borough.kenai.ak.us; jczarneski@borough.kenai.ak.us; jmohorci@borough.kenai.ak.us; admin@moosepassalaska.com; 'jan@hydroreform.org'; 'Susan Walker'; 'Cassie Thomas'; 'Mark Luttrell (prufrock@arctic.net)'; info@salamatof.com; johnb@ssraa.org; tbristol@tu.org; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Denise Koopman (denise.koopman@usace.army.mil)'; CEPOA-RD_Kenai@usace.army.mil; rbirk@fs.fed.us; 'Kevin Laves (klaves@fs.fed.us)'; 'rstovall@fs.fed.us'; 'Van Massenhove, Katherine B -FS (kvanmassenhove@fs.fed.us)'; 'jeavis@fs.fed.us'; 'Karen O'Leary'; Travis Moseley (tmoseley@fs.fed.us); lynnda_kahn@fws.gov; socheata_lor@fws.gov; frances_mann@fws.gov; 'Jeffry Anderson'; 'Phil Brna'; ak_fisheries@fws.gov; Goodrum, Brent W (DNR); 'waterlaw@uci.net'; Katharine Glaser; jjodhner@arctic.net; claireshipton@gmail.com; info@chenega.com; president@eklutna-nsn.gov; 'ntc@niniichiktribe-nsn.gov'; 'Kime, Sherry D -FS'; mike@alaska-energy.com; irene@arctic.net; bearimage.dw@gmail.com; Baldwin-Johnson, Kathleen D (DOR); jslang11@yahoo.com; pm99588@yahoo.com; peruprairie@hotmail.com; andbacon2@yahoo.com; dyrkss@yahoo.com; jestes@cityofseward.net
Cc: 'Mike Salzetti'; Zubeck, Brad; Janorschke, Brad; 'JGallagher@HomerElectric.com'; Andersen, Emily; McMillen, Morton D.

Subject: Grant Lake Project (P-13212) Management Plan Review and Comment Deadline

Grant Lake Hydroelectric Project (FERC No. 13212) Stakeholder Group:

Hi all,

As you know, over the past month, KHL has distributed a series of documents for your review and comment. Four documents (Operation Compliance Monitoring Plan, Avian Protection Plan, Vegetation Management Plan (public version) and Biological Evaluation for Plants) were distributed on May 15, 2015. Along with this distribution, additional documents were developed and distributed for appropriate entities to review and comment on based on their privileged or content specific nature (Historic Properties Management Plan, Vegetation Management Plan (Privileged Version), ACOE Section 404 Application). Then on June 1, 2015, KHL distributed the final management plan that it elected to proactively develop for review and comment during this phase (Biotic Monitoring Plan). KHL understands that even though you all will have had 6 weeks to review the initial four management plans sent (Operation Compliance Monitoring Plan, Avian Protection Plan, Vegetation Management Plan (public version) and Biological Evaluation for Plants) and 3 ½ weeks to review the final distribution (Biotic Monitoring Plan), you have also likely been spending time reviewing the DLA given its formal deadline of June 25, 2015. This is of course to say nothing for all of the other obligations that you likely have on your plate. With that understanding, KHL would like to ask that all management plan comments be received by July 15, 2015. This additional 20 days added to the already allotted 6 weeks (9 total) and 3 ½ weeks (6 ½) total respectively, will hopefully provide enough time for all parties interested to review and comment on the suite of management plans KHL has drafted and distributed.

Thank you and as always, if you have any questions, don't hesitate to let me know.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Natural Resources

DIVISION OF MINING, LAND & WATER
Southcentral Regional Office

550 West 7th Avenue, Suite 900C
Anchorage, Alaska 99501-3577
Main: 907.269.8503
TDD: 907.269.8411
Fax: 907.269.8913

June 24, 2015

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

Subject: DNR comments on the Draft License Application for Kenai Hydro, LLC-Grant Lake
Hydroelectric Project (FERC No. 13212)

Dear Secretary Bose:

The Department of Natural Resources (DNR) has reviewed the draft license application for the Grant Lake Hydroelectric Project (FERC No. 13212), located near the community of Moose Pass, Alaska on the Kenai Peninsula. Below are the combined comments of the Division of Mining, Land and Water (DMLW) and the Division of Parks and Outdoor Recreation (DPOR).

General Comments

1. The FERC Project boundary includes state owned land managed by DPOR under a Special Use Land Designation (11 AAC 96.014). The DNR managed land within the project area is within ADL 226527, a management agreement for additional lands that are to be included in the Kenai River Special Management Area (KRSMA), a legislatively designated area. Per ADL 226527 and the Kenai Area Plan (KAP), DPOR will manage the lands affected by this agreement consistent with the statutory objectives of the Kenai River Special Management Area (AS 41.21.500-514). Per AS 41.21.506, the Kenai River Comprehensive Management Plan (KRCMP) was developed and designates compatible and incompatible uses of KRSMA land. There are management and permitting guidelines within the Kenai River Comprehensive Management Plan and Kenai Area Plan that need to be addressed in order for DNR to determine if the project can be authorized. These include, but are not limited to:
 - a. KRCMP 4.5.2.3, new instream structures "must not impede fish passage, result in an overall reduction in fish habitat, present a hazard to public safety or diminish recreational opportunities."
 - b. KRCMP 4.5.3, development within the Kenai River watershed is to be managed to "avoid significant adverse impacts to the resources of the KRSMA, including but not limited to water, soils, fisheries, wildlife, visual quality, and recreation."
 - c. KRCMP 4.5.5.2 Impoundment Structures, "the construction of new dams or diversions on the Kenai River or its fish bearing tributaries, which block fish movements, or reduce essential stream flows for spawning, rearing or migration, will be prohibited. This recommendation is to be included in the KAP." In turn,

the Kenai Area Plan states "The construction of new dams or diversions on the Kenai River or its fish-bearing tributaries that impede fish movements or reduce essential stream flows for spawning, rearing or migration will be prohibited." (See KAP, Page 3-107).

- d. KRCMP, Appendix C
 - i. The permitting matrix in the KRCMP includes hydropower projects in its list of activities. Hydropower projects are classified as "not compatible" within contiguous wetlands which are considered "high value." Hydropower projects are classified as conditionally compatible in "low value" wetlands, provided that "[h]ydroelectric facilities shall be permitted in waters which do not provide anadromous fish habitat, or on reaches upstream from such habitat, only where water quality and quantity, including normal distribution of streamflow, can be maintained and where no significant individual or cumulative impacts will occur."
 - ii. The General Guidelines apply to all allowable activities. How will this project adhere to all 18 guidelines? Specifically #5 through 7
- e. KRCMP, Appendix D Permitting of Instream Structures

Given the current project description in the license application, it appears that four items will need to occur in order for DNR to authorize this project:

- a. Amendment to the Kenai Area Plan
- b. Amendment to the Kenai River Comprehensive Management Plan
- c. Change to the Special Management Area
- d. Amendment to ADL 226527 and the MOU on the management roles for KRSMA

Amending the above plans, removing lands from a Special Management Area and amending existing authorizations can be a lengthy process that does not have a guarantee of approval.

- 2. This project requires a Permit to Appropriate Water. This is an important step to acquiring water rights.
- 3. The applicant has applied for water rights for the project. These rights are in application status, LAS 27264, with a priority date of April 2009. The Water Use Act (AS 46.15) requires the applicant to provide a "possessory interest" for the land. This project is occurring on state land within a Special Use Area which requires easements and/or leases to use the land. A Permit to Appropriate Water cannot be issued until the applicant adequately addresses substantial concerns addressed elsewhere in these comments.

Citation Specific Comments

4. IS-3

Please cite the statute that covers permits and easements (AS 38.05), not just leasing. Utility infrastructure and access routes may be issued as an easement, not a lease.

Table E.2-2, Page E-15

The measure "obtain easements" from ADNR is listed, but the description in the application states that a lease will be requested, not an easement. Easements and leases have different regulations. Please correlate the descriptions and applicable statute/regulations to correctly reflect the authorization being requested. ADNR would suggest including both leases and easements.

5. IS-5 and Exhibit C

KHL's Initial Statement in the DLA states that: "Upon license acquisition, KHL will collaborate with the Alaska Department of Natural Resources to appropriately apply for a lease for the requisite land managed by their agency." Exhibit C, Figure C.2-1 indicates in the project schedule that the easements would be acquired starting 8/3/2015 and be completed by 6/1/2016, but the Final EIS decision is not being issued until 9/1/2016, with the license order date of 12/30/2016. Which is the correct order (applying to DNR prior to the Final EIS being issued or after)?

6. Section 3, Page A-2

The Alaska Railroad is listed as adjacent to the project area, but it is in the project area on all the maps and in later descriptions.

7. 2.1.2.10, Page E-13 and 4-10, Page A-14

Moving ADL 228890, the Iditarod National Historic Trail easement, allows for the 90 degree crossing, not the current conditions, which places the powerhouse on the trail. The descriptions of the affects assume the easement has been moved, not the current conditions.

8. 4.8.1.3 Iditarod National Historical Trail [INHT]

Commemorative routes are allowed for segments of a national historic trail, per the National Trails Act. As a result, a determination of significant interference from BLM may be required for the Iditarod National Historic Trail under the Act, and for the title encumbrances and citation authorities included in the patent from the BLM to the State. Please contact the federal trail administrator to request a decision on whether this review will be required.

9. 4.8.1.2.2 Kenai Area Plan

ADNR recently issued a final finding for conveyance to the Kenai Peninsula Borough for Units 380G, 380F and 381 on February 24, 2015. Some areas within the units adjacent to the Seward Highway were conditionally approved, others were rejected (including those along Grant Creek). The Decision and associated maps can be accessed online at <http://dnr.alaska.gov/mlw/muni/>

10. 4.8.2.1.7 Recreational Opportunities

Please provide more detailed information on the parking facilities being proposed

11. 4.8.2.3 INHT

ADL 228890 is a 100' public access easement issued to the Chugach National Forest, within a 1000' corridor reserved to the State of Alaska. The management intent and guidelines for this corridor are in Chapter 2 of the Kenai Area Plan, with further definition in the Final Finding and Decision for ADL 228890. While the proposed road would cross the easement and corridor at 90 degrees (which is potentially allowed), the powerhouse and ancillary facilities are within it and conflict with the Kenai Area Plan and ADL 228890. An amendment to the area plan, granted by the Commissioner of the Department of Natural Resources, would be required to issue an authorization for this project without the relocation of the trail easement and corridor. The Final Finding and Decision for ADL 228890 does address potential relocations of this trail:

Any relocation in size or relocation of the trail easement would be done in consultation with the USFS and at the sole expense of the party requesting the relocation. Any relocation shall provide a continuous uninterrupted trail easement consistent with the 1986 Comprehensive [Management] Plan for the Iditarod National Historic Trail and protect the capital investment of trail construction and facilities should relocation be needed.

Kenai Hydro would need to formally request the relocation of the Iditarod Trail, ADL 228890. Per ADL 228890, a relocation would be at the sole expense of Kenai Hydro (including any survey requirements) and must adhere to the Kenai Area Plan, the Comprehensive Management Plan for the INHT and the Final Finding and Decision for ADL 228890. If a relocation is granted, it would require that the 1000' buffer be intact, that the wilderness characteristics of the trail are conserved and conflicting uses adequately separated (per the Final Finding and Decision for ADL 228890). This would be done in coordination with DNR, the Chugach National Forest and the Kenai Peninsula Borough (KAP and ADL 228890).

12. 4.9.2.2.4

Assumes that the reroute of the Iditarod Trail will occur, as only the road and trail are discussed and not the powerhouse and ancillary facilities that would block the trail.

13. 4.9.2.3.1

The latest maps that DNR has of the INHT and project facilities has the trail going down the edge of the detention basin and through the middle of the powerhouse. Has the powerhouse been moved? The structure would not only be seen by hikers, they would have to traverse it.

14. 4.13, Page E-402 Consistency with Comprehensive Plans

The description states that this section is reviewing consistency with federal and state comprehensive plans in the area, but contains a lot of ADFG plans that are hundreds of miles outside the project area. For ADNR, the following plans are listed

- i. Fish Creek Management Plan
- ii. SCORP

The Fish Creek Management Plan is in the Matanuska-Susitna Borough and is not on the Kenai Peninsula. Additionally, the Kenai Area Plan and the Kenai River Comprehensive Management Plan (and designations and agreements) are not listed, but are referenced throughout the document (4.8.1.2.1 and 4.8.1.2.2 for example). Please include a description of the consistency with comprehensive plans for those that apply to the project area. Currently, the two major ADNRR plans in the project area are not listed or evaluated for consistency in section 4.13. Additionally, the comprehensive management plan for the Iditarod National Historic Trail should be listed, as it is cited in both the Kenai Area Plan and ADL 228890, which is also reference multiple times in the license application materials.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lesli Schick", is written over the printed name.

Lesli Schick

Department of Natural Resources

Email: lesli.schick@alaska.gov

From: Warnock, Cory
Sent: Wednesday, June 24, 2015 2:41 PM
To: Salzetti, Mikel
Cc: Andersen, Emily
Subject: RE: request for additional info, POA-2008-1492, Grant Lake Hydo LLC, Moose Pass, Grant Creek (UNCLASSIFIED)
Attachments: POA-2008-1492 Grant Lake Ack letter.pdf

Begin forwarded message:

From: "McCafferty, Katherine A POA"
<Katherine.A.McCafferty2@usace.army.mil<mailto:Katherine.A.McCafferty2@usace.army.mil>>
Date: June 24, 2015 at 12:01:26 PM AKDT
To: "Salzetti, Mikel" <MSalzetti@HomerElectric.com<mailto:MSalzetti@HomerElectric.com>>
Cc: "Stephen.Sachs@ferc.gov<mailto:Stephen.Sachs@ferc.gov>"
<Stephen.Sachs@ferc.gov<mailto:Stephen.Sachs@ferc.gov>>, "Speerstra, Linda POA"
<Linda.Speerstra@usace.army.mil<mailto:Linda.Speerstra@usace.army.mil>>
Subject: request for additional info, POA-2008-1492, Grant Lake Hydo LLC, Moose Pass, Grant Creek (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Please see attached and contact me with any questions.

Katie McCafferty



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
REGULATORY DIVISION
44669 STERLING HWY, SUITE B
SOLDOTNA, AK 99669-7915

June 24, 2015

Regulatory Division
POA-2008-1492

Mr. Mike Salzetti
Kenai Hydro, LLC
3977 Lake Street
Homer, AK 99603

Dear Mr. Salzetti:

We have received your May 18, 2015 Department of the Army (DA) permit application to discharge dredged or fill material into waters of the US for the purpose of constructing a hydro power project on Grant Lake and Grant Creek. Based on the information you provided, it appears your proposed activity could qualify for NWP 17, Hydropower projects; however, more information is needed for your request to be considered complete. The proposed project is located within Section 13, T. 4 N., R. 1 W., Sections 1, 2, 5, 6, 7 and 18, T. 4 N., R. 1 E., and Sections 27, 28, 29, 31, 32, 33, 34, 35, and 36, T. 5 N., R. 1 E., Seward Meridian; USGS Quad Map Seward B-6 and B-7; Latitude 60.456992° N., Longitude 149.351172° W.; near Moose Pass, Alaska. It has been assigned number POA-2008-1492, Grant Lake, which should be referred to in all correspondence with us.

Based on our review of the information you provided and available to our office, we have preliminarily determined that your proposed project would involve placement of dredged and/or fill material into waters of the United States (U.S.) under our regulatory jurisdiction (Please see the attached Preliminary Jurisdictional Determination Form).

As mentioned, to continue evaluating your proposal, the following items are required to make your request complete:

a. The document entitled "Grant Lake Hydroelectric Project Jurisdictional Determination Report, In support of a Request for a Preliminary Jurisdictional Determination," dated May 2015, states that it is intended to summarize sections of the DLA, as well as portions of the final draft of the Terrestrial Report. Provide a printed hardcopy of all relevant sections of these documents. In addition, please revise Table 2 to include a column which lists which specific aquatic resource would be filled, use the same labels that are indicated on Figures 4 and 5 of the application;

b. In anticipation of the large number of waters that would be identified as part of the proposed project, a copy of our data upload spreadsheets were provided to your agent to assist us in to processing of the your permit application. Please complete those spreadsheets and provide them to us. The spreadsheets have been updated as of June 21, 2015; the most up to date upload forms are available at <https://orm.usace.army.mil/> or they can be emailed upon request;

c. The description of the proposed discharges in Block 21 of the application must include all temporary and permanent discharges into waters of the US, Including wetlands, streams, Grant Lake, and Trail Lakes. Please revise Table 3 and Table 4 of the application, as well as the appropriate descriptions in Block 21. Identify permanent and temporary discharges of fill. The description of discharges in Block 21 states that 830 cubic yards of concrete and 8,265 cubic yards of gravel would be placed in Grant Lake, but Table 3 does not include the 8,265 cubic yards of gravel;

d. The Corps cannot authorize activities based upon approximate impact amounts. Provide the exact areas of waters of the US that would be impacted by the discharge of dredged or fill material, as well as the exact volume of material that would be placed in those areas. If exact amounts are not known at this time, provide the maximum areas and volumes for each impact, including impacts from power transmission poles;

e. Please revise Table 3 to include a column which lists which specific aquatic resource would be filled, use the same labels that are indicated on Figures 4 and 5 of the application;

f. Complete Box 11 if an agent will be authorized to provide information on behalf of Kenai Hydro LLC;

g. Our office was provided a public copy of Exhibit F which contains no drawings. A complete application must include plan and cross section views for each type of impact to waters of the US, these should include: access road fill, access road culvert, fill for the powerhouse parking, the Grant Lake intake structure, bank stabilization in Grant Lake, bank/channel armoring in Grant Creek, then end of the tailrace, the south end of the intake bypass tunnel, the north end of the intake bypass tunnel, and detention pond control structures. If the relocation of the IHNT would result in the discharge of fill into waters of the US, provide plan view and cross section drawings for those crossings. Please see our Guide to Drawings for the requirements of all submitted drawings:
[http://www.poa.usace.army.mil/Portals/34/docs/regulatory/guidetodrawings2012.pdf.](http://www.poa.usace.army.mil/Portals/34/docs/regulatory/guidetodrawings2012.pdf;);

h. Provide a plan view drawing which shows where all 14 culverts would be located along the access road. Indicate which culverts would be located in stream channels;

i. Our office was not provided with a copy of the SHPO concurrence or Historic Resources Report. Although FERC is the lead federal agency responsible for complying with Section 106 of the National Historic Preservation Act, the Corps cannot issue a permit until we have verified that the process has been completed. Provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act;

j. The avoidance and minimization statements do not appear to contain all possible measures to avoid and minimize impacts, specifically for the proposed impacts to F5, Int 4, and Int 5. Discuss why the access road and powerhouse parking cannot be reconfigured to avoid impacts to these waters;

k. The compensatory mitigation statement indicates that an in-lieu fee payment is proposed for to offset the loss of waters that would occur as a result of the proposed project. There are currently no in-lieu fee (ILF) providers selling credits for the service area in which the project occurs. The Corps may evaluate the proposed project based upon the proposed ILF however, the permit, if issued, would require that an ILF payment be made and accepted prior to the placement of any fill into waters of the US. Please provide a written statement from the ILF provider which indicates their agreement to sell ILF credits sufficient to offset the permanent impacts that would result from the proposed project;

l. Table 3 appears to indicate that the proposed project would permanently impact 0.49 acres of wetlands in addition to 549 linear feet of stream channel. The mitigation statement indicates that 0.49 acres of impact would be offset by an in-lieu fee payment. The total area of impact should include the area of each wetland, stream, and open water that would be impacted by the discharge of fill;

m. General condition 3 of the NWP prohibits authorizing activities that would result in the physical destruction of important spawning areas and requires that activities in spawning areas during spawning seasons must be avoided to the extent practical. State when in-stream work would occur and how impacts to spawning areas would be avoided;

n. The Terrestrial report indicates that the wetlands have been assessed as Category 2 according to the functional assessment. It is not clear what Category has been proposed for the streams or open waters;

o. State how any areas of temporary fill would be restored back to preconstruction contours after the temporary fill is no longer needed.

If we do not receive the information within 30 days of the date of this letter, we will close your file. Closure of the file at such time will not preclude you from reopening the file at a later date.

Please contact me via email at Katherine.a.mccafferty2@usace.army.mil, by mail at the letterhead address, by phone at (907) 753-2692 if you have questions. For more information about the Regulatory Program, please visit our website at <http://www.poa.usace.army.mil/Missions/Regulatory.aspx>.

Sincerely,



Katherine A. McCafferty
Project Manager

Enclosures

CF:

FERC: Stephen.Sachs@ferc.gov

From: Miller, Monte D (DFG) [<mailto:monte.miller@alaska.gov>]
Sent: Thursday, June 25, 2015 4:53 PM
To: Salzetti, Mikel
Cc: Klein, Joseph P (DFG)
Subject: Grant Lake Hydroelectric Comments

Mike,

The internal review of our comments has taken longer than expected. We are working to finalize our comments and I will send them along as soon as final corrections are made. We appreciate your understanding that we are intent on providing the best evaluation possible. The intent of this e-mail is to keep you informed of our progress.

Monte D. Miller
Statewide FERC Hydropower Coordinator
Alaska Department of Fish and Game
Division of Sport Fish / RTS
333 Raspberry Road
Anchorage, Alaska, 99518-1565

(907) 267-2312

From: Schick, Lesli J (DNR) <lesli.schick@alaska.gov>
Sent: Thursday, June 25, 2015 5:33 PM
To: Michael Yarborough; Bittner, Judith E (DNR); Duvall, Shina A (DNR); Sherry Kime; Frank Winchell
Cc: Mike Salzetti; Warnock, Cory; Andersen, Emily
Subject: RE: Grant Lake Hydroelectric Project (FERC No. 13212) Historic Properties Management Plan

Hi Cory and Mike,

I do not have specific comments about the Historic Properties Management Plan, but I do have an observation on the analysis for the National Trails Act.

For Section 5.3: While the commemorative route of the Iditarod National Historic Trail does not need evaluation under Section 106 of the National Historic Preservation Act, the trail is designated by Congress and compliance with the National Trails Act does need to be discussed somewhere in the project materials. These are two different federal Acts, and currently the route is being reviewed under the NHPA, but not under the federal act that applies to it. Please provide this analysis somewhere in the project materials (perhaps the recreation section).

Thank you,
-lesli

Lesli Schick
Iditarod Trail Easements
Department of Natural Resources
550 W 7th Ave, Suite 900C
Anchorage, AK 99501
Phone: (907) 334-2679, Fax: (907) 269-8930
Email: lesli.schick@alaska.gov

From: Michael Yarborough [mailto:salvagerecovery@gmail.com]
Sent: Friday, May 15, 2015 4:18 PM
To: Bittner, Judith E (DNR); Duvall, Shina A (DNR); Sherry Kime; Frank Winchell; Schick, Lesli J (DNR); Mark Luttrell; jbrune@ciri.com
Cc: Mike Salzetti; Warnock, Cory; Andersen, Emily
Subject: Grant Lake Hydroelectric Project (FERC No. 13212) Historic Properties Management Plan

All

I am sending this email on behalf of Homer Electric Association, Inc. (HEA) to invite comment on a draft Historic Properties Management Plan (HPMP) for the Grant Lake Hydroelectric Project. Our last discussion, on March 21, 2014, focused on review of past consultation, the 2014 cultural resources study report, and the Iditarod National Historic Trail (INHT).

An electronic version of the HPMP is attached to this email. HEA will also be distributing other management and monitoring plans for review later today. The Draft License Application (DLA) has been filed with FERC and distributed via multiple mechanisms to stakeholders and the interested public on March 27, facilitating a 90-day review period, with comments due on or before June 25, 2015. As part of that transmittal, KHL made a commitment to distribute the draft management/monitoring plans and biological evaluation soon thereafter to allow enough time for a parallel review and comment period.

HEA requests that all comments on the HPMP also be submitted on or before June 25, 2015.

We are not currently planning another Cultural Resources Working Group meeting, in part due to the difficulty of finding a time when all the members of the group could attend. However, an in-person or teleconference meeting can be arranged in the future if members of the group feel it would be beneficial.

Thank you in advance for your ongoing participation,

Mike

--

Michael R. Yarborough
Senior Archeologist
Cultural Resource Consultants LLC
3504 E. 67th Avenue
Anchorage, Alaska 99507
Anchorage: (907) 349-3445
Cell: (907) 306-6069

From: Warnock, Cory
Sent: Friday, June 26, 2015 10:13 AM
To: Andersen, Emily
Subject: FW: US Forest Service Response to the Grant Lake Hydro Project Draft License Application
Attachments: Grant Lake Hydro Project Response Package.pdf

Sent: Thursday, June 25, 2015 7:46 PM
To: Mike Salzetti (msalzetti@HomerElectric.com); Warnock, Cory
Cc: Keller, Peter C -FS; Stovall, Robert -FS
Subject: US Forest Service Response to the Grant Lake Hydro Project Draft License Application

Mr. Salzetti,

Please find attached the response comments to the Grant Lake Hydro Project DLA for Kenai Hydro, LLC. Thank you for providing the opportunity to comment. The original letter is also in route to you via the US Mail.

Sincerely,



Kathy Van Massenhove
Special Uses Team Leader

Forest Service
Chugach National Forest

p: 907-743-9542
kvanmassenhove@fs.fed.us

161 East 1st Ave, Door 8
Anchorage, AK 99501

www.fs.fed.us



Caring for the land and serving people



File Code: 2720
Date: June 25, 2015

Mike Salzetti
Mgr of Fuel Supply and Renewable Energy Development
Kenai Hydro LLC
3977 Lake Street
Homer, AK 99603

Subject: Chugach NF comments on the Draft License Application for Kenai Hydro, LLC - Grant Lake Hydroelectric Project (FERC No. 13212)

Dear Mr. Salzetti:

Thank you for the opportunity to review and comment on the Draft License Application for Kenai Hydro, LLC - Grant Lake Hydroelectric Project (FERC No. 13212).

This project is located within the Chugach National Forest boundary in the Alaska Region. Our comments are related to National Forest System lands and interests within the project boundary.

Our comments and preliminary conditions are enclosed.

We look forward to working with the FERC and Kenai Hydro, LLC to ensure the needs of the public are addressed. If you have any questions regarding this submittal, please contact Deputy District Ranger, Robert Stovall at rstovall@fs.fed.us or 907-743-9474.

Sincerely,

For Terri Marceron
Forest Supervisor

Cc: Kathy Van Massenhove, Special Uses Team Leader, Chugach National Forest
Roger Birk, Special Uses Alaska Region

Enclosures

Grant Lake Hydro Preliminary 4(e) Terms and Conditions
Forest Service Comments on the Grant Lake Hydroelectric Project



Forest Service Comments on the Grant Lake Hydroelectric Project (FERC No. 13212) for the Draft License Application

The Forest Service concurs with FERC Office of Energy Projects “Review of Draft License Application for the Proposed Grant Lake Hydroelectric Project Identification of Potential Deficiencies and Additional Information Needs” dated June 17, 2015

General-Forest Service Resources That Could Be Cumulatively Affected

Water quantity, water quality, and fishery resources are resources identified that would be cumulatively affected by the proposed construction and operation of the project. It is Forest Service practice to analyze all affected resources for direct, indirect and cumulative effects. During public meetings, many comments and concerns were expressed related to recreation use in the project area. In particular, the direct, indirect, and cumulative effects to the Iditarod National Historic Trail (INHT) should be thoroughly analyzed.

Water Quantity and Quality

Instream Flow Requirement – Chugach RLRMP, 2002 Water Wetlands and Riparian Areas Goal: “Provide instream flows to maintain and support aquatic life and habitat, recreation and aesthetics, the natural conveyance of water and sediment, and other resources that depend on such flows on National Forest System Lands.”

Need for Additional or New Information

- A reference identified in the Aquatic Resources Draft Study Plan (Source: Grant Lake Morphology in Marcuson, P. 1989. Coho Salmon Fry Stocking in Grant Lake, Alaska, USDA Forest Service, Seward Ranger District, Chugach National Forest, February 1989) states: “An upper basin of Grant Lake has a maximum depth of 80 feet and a lower, outlet end exceeding 90 feet in depth. The two basins are separated by a narrow isthmus with an island and less than 10 feet of depth.” Lake depths in the area in question should be evaluated and this statement verified. If true, there could be a disproportionate drawdown of the lower basin and there may be a loss of connectivity between the deeper regions of the upper and lower portions of Grant Lake. Again, please note that the draft study plan should display the updated project map (*This was not analyzed in the Draft Water Resources – Geomorphology Report, Feb. 2014*). This drawdown may also have effects on water recreation through this narrow, shallow location and should be analyzed (06/11/2015).
- Approximately 11 % of Grant Creek is covered by glaciers. The effects analysis of the project should include references and an analysis on how the project will affect water

quantity/quality taking into account anticipated streamflow changes from glacial recession.

- Grant Creek was stream gaged by the USGS from 1947-1958. This time frame was within the Cold (Negative) Pacific Decadal Oscillation (PDO). Cold PDO phase summer flows have shown higher peak snowmelt runoff, and higher magnitude and timing of annual peak discharge events than Warm (positive) PDO phase summer flows (Neal, et. al, 2002). Additionally, many of these years during this timeframe were La Nina's which often produce higher amounts of snowfall lending to even higher flows. Utilizing only these years and only two separate discontinuous and incomplete years of data will likely not reflect the mean hydrograph. Modeling Grant Creek's streamflow hydrograph should take into account that the gaged water flow years were likely much higher than the mean.
- Please include a climate change effects analysis. This analysis should include anticipated changes in streamflow. Hydrologic flow analyses should take into account both the long term warming climate change trend and the PDO and ENSO variation cycles.
- There will need to be an analysis of the project effects on Groundwater Resources within the project area and downstream.

Activities occurring off of National Forest lands may still affect upstream and downstream Forest Service resources such as fish, water quality, water quantity, aquatic habitat and riparian areas. The Land and Resource Management Prescription within the project area has a Fish, Wildlife, and Recreation management Prescription. Apply Best Management Practices to minimize the effects of land disturbing activities on the beneficial uses of water.

Aquatic Resources

The Forest Service is in concurrence with comments that were made by Alaska Dept. of Fish and Game with regard to Fisheries and Aquatic Resources. Along with their comments the effects of project construction and operation on changes in distribution and abundance of aquatic insects and their predators should be analyzed.

Terrestrial Resources

The Forest Service is in concurrence with comments that were made by Alaska Dept. of Fish and Game with regard to Terrestrial Resources. The effects of project construction and operation on changes to animal movement in and through the project area as well as displacement and disruption of seasonal movement patterns should be analyzed. The effects of increased access on barvestable wildlife should also be analyzed.

Soil Resources-Erosion Control Plan

Within 1 year following the date of license issuance and at least 90-days prior to any land disturbing activity, the Licensee shall file with the Director, Office of Hydropower Licensing for Commission approval, a plan that is approved by the Forest Service to control erosion, stream

sedimentation, dust and soil mass movement consistent with the standards and guidelines of the Chugach National Forest Land Management Plan, the Soil and Water Conservation Handbook (FSH 2509.22) and the National Best Management Practices. Upon Commission approval, the Licensee shall implement the plan. The plan shall be based on actual-site geological, soil, surface water and groundwater conditions, and shall include: (1) a description of the actual site conditions, including any existing erosion or sedimentation problems from roads, stream crossings, trails, or other facilities; (2) detailed descriptions, design drawings, and specific topographic locations of all control measures; (3) measures to divert runoff over disturbed land surfaces, including sediment ponds at the diversion and powerhouse sites; (5) re-vegetating test-drive areas outside the roadbed; (6) measures to dissipate energy and prevent erosion at the tailrace; (7) a monitoring and maintenance schedule; (8) and any other measures the Forest Service, and the Licensee mutually identify as needing care to ensure resource protection. The plan and erosion control measures shall comply with Best Management Practices (Soil and Water Conservation Handbook FSH 2509.22 and National Best Management Practices for Water Quality Management on National Forest System Lands FS-990). Erosion control measures should be designed to retain the natural appearance of the area where practicable. The Commission may require changes to the plan to ensure adequate protection of the environmental, scenic, and cultural values of the project area. The Licensee shall not commence activities the Forest Service determines to be affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower, Licensing, prescribes a different commencement schedule.

Mineral Resources

The effects of project construction and operation on changes to heavy metal leakage as a result of water level fluctuations of Grant Lake, which is an area of past mining and milling operations, should be analyzed. The Forest Service currently has a Miner with an approved Mining Plan of Operations for a Placer and Loading mining operation in the Grant lake Area.

Recreation Resources and Land Use

Iditarod National Historic Trail:

In general, the Forest Service concurs with comments made by the Alaska Department of Natural Resources that were submitted to FERC on June 23, 2015. Specifically, related to the Iditarod National Historic Trail (INHT), the Forest Service reiterates the comments made in these sections: 4.8.1.3 Iditarod National Historical Trail [INHT], 4.8.2.1.7 Recreational Opportunities, 4.8.2.3 INHT, 4.9.2.2.4, and 4.9.2.3.1.

The Grant Lake Hydro project proposes development of a vehicular road that would directly overlay or generally parallel the Iditarod National Historic Trail (INHT) Easement. The Grant Lake project also proposes development of a Powerhouse, and Tailrace Detention Pond at the location of a planned INHT pedestrian bridge crossing of Grant Creek. National Historic Trails

are established under the National Trails System Act (P.L. 90543, as amended through P.L. 111-11, March 30, 2009).

National Trails in Alaska are considered a Conservation System Unit (CSU) under the Alaska National Interest Lands Conservation Act (ANILCA). When a transportation or utility system (TUS) is proposed within a CSU, each Federal agency having jurisdiction must follow the requirements of Title XI of ANILCA. Sections 1104 and 1107 of Title XI describe the procedural requirements that apply. Section 1106 describes the decision-making process for final approval or disapproval by the agencies.

FERC is the lead federal agency with responsibility for preparing the National Environmental Policy Act (NEPA) document. An environmental impact statement is required for a TUS in a CSU. Upon completion of the EIS, each federal agency will make its decision regarding its authorization and include detailed findings as required by Section 1104(g) of Title XI. Section 1104 (g) (2) identifies eight specific criteria that must be considered before a federal agency makes a decision and Section 1107 (a) specifies terms and conditions that must be included in an authorization. Section 1104 also requires the Federal agencies to hold hearings on the EIS in Alaska and Washington, D.C.

Title XI requires that an applicant apply to the appropriate federal agencies for an authorization for the TUS. KHL must submit an application to the Forest Service and the Federal Energy Regulatory Commission on form SF-299 along with the substantial evidence outlined in Section 1104 (g) (2) that is needed by the agencies to make a decision.

While the INHT through the Vaght Lake / Grant Lake area is on State of Alaska land, development of this INHT segment is being performed by the Forest Service under an easement issued by the State of Alaska Department of Natural Resources (Final Finding and Decision, ADL 228890 Grant of Public Easement Iditarod National Historic Trail Seward to Girdwood, 2004). The DNR decision stipulates the reservation of "a 1,000-foot-wide corridor which will provide a buffer with enough width to, a) conserve the wilderness characteristics of the Iditarod Trail, b) provide enough width to separate conflicting uses such as motorized and non-motorized uses in areas where multiple uses are recommended, and c) allow for development of future compatible trail facilities."

The issue to be addressed is the access road location. The Recreation Resources Study Report is correct in that discussions of a reroute of the INHT easement are ongoing with state and federal agencies, and other stakeholders. Further analysis and discussion will be required to assess the effects to the Iditarod National Historic Trail and the public use and development scale of the proposed road to Grant Lake. Until this analysis and review of alternative routes is completed, it seems inappropriate to describe the benefits or deficiencies of the alternative routes.

The Chugach National Forest has identified the following general issues regarding any alternative to the reroute of the INHT for the Grant Lake Hydro Project as currently proposed:

- Quality Recreation Experience: Development and provision of a single-track trail that provides a high quality backcountry recreation experience through a predominantly

unmodified setting of high scenic value. The road and substation, as proposed, would substantially alter and compromise the desired INHT recreation experience.

- Cost: The Forest Service has invested significant time and resources to locate an alignment of the INHT through this area (which provides challenging topography and limited alignment options) that meets INHT management objectives. Even if an alternate location that meets management objectives could be found, by provision of the DNR Final Finding and Decision, the cost of identifying and developing a new alignment (including any increase in construction cost), would be borne by the proponent.
- Sustainable Trail: The INHT trail alignment is intended to provide a sustainable trail that meets the INHT management objectives and Forest Service design parameters, while minimizing long-term maintenance needs, and avoiding or minimizing negative impacts to other resources. Any revised alignment would need to fulfill the same objectives.

Other Comments on Recreation and Visual Resources:

It is unclear from the Recreation Resources Study Report description that the initial winter survey actually included the National Forest System Lands around Grant Lake. Normal winter routes to Grant Lake do not utilize the Vagt Lake Trail. Rather, access is gained from one of two winter trails at the northern end of the Trail Lake narrows. The Study only indicates one winter and one summer visit.

Existing Observed Winter Use

This section of the Recreation Resources Study Report is not accurate. Winter access to the Grant Lake area is most commonly via crossing Upper Trail Lake and one of two winter trails which leave the shoreline just south of the mouth of the lake. The most used trail is a portage trail which is easily negotiated via snowshoe, ski or snow machine. This trail is located in the southern portion of Section 31. It would be difficult to identify the winter use of the Grant Lake area without observing these routes. Another known winter use of the Grant Lake area would be trapping of fur bearing animals.

Existing Observed Summer Use

Other known uses include hiking to Grant Lake on one of the trails mentioned above and boating in paddle craft portaged from Upper Trail Lake. Though mentioned later in the document, it would seem appropriate to include here that summer use of the Grant Lake area can be expected to increase with the completion of planned developments associated with the Iditarod National Historic Trail. The study also describes the existing use of the Vagt Lake Trail as "light". If a conclusion is drawn on the amount of use, then the term, light, should be defined. Again it would seem appropriate to mention that use can be expected to increase once the planned development of the INHT is completed.

Sight-Seeing Flights

The description of typical routes seems to indicate the Harding Ice field is in the vicinity of Prince William Sound. This is inaccurate; perhaps the writer is referring to the Sargent Ice field or that flights also continue south and west to view the Harding Ice field.

Noise

There has not been sufficient study of non-motorized recreational use of the Grant Lake area to describe as “small to absent”.

Conclusions on recreational use of the National Forest System lands in the vicinity of Grant Lake can't be reached based on two visits as described in the Recreation Resources Study Report. The inaccuracies and omissions mentioned should be corrected and further study should be undertaken to more accurately characterize this recreational use of National Forest System lands in the vicinity of Grant Lake. Further analysis and discussion will be required to assess the effects to the Iditarod National Historic Trail and the public use and development scale of the proposed road to Grant Lake. We are also concerned about how the proposed buildings, fluctuating lake level, and power distribution lines will affect the visual integrity of the CNF in this area.

Cultural Resources: Archaeological and Historic Study

The survey and report are thorough and document cultural resources within the Area of Potential Effects (APE). We anticipate further discussion regarding the determinations of eligibility and finding of effect during our formal review of the determinations for historic properties in the coming months. As for the proposed INHT reroute, our main concern is adding the reroute to the APE and surveying for cultural resources as potential re-routes are proposed. The Forest Service is in concurrence with the SHPO comments to the DLA.

Land Use Authorizations

Most of the proposed project facilities are located on State of Alaska lands. However, project facilities, such as impoundments, on National Forest System lands will require special use authorization from the Forest Service prior to construction. Authorization for use of federal right-of-ways or easements, such as use of the Crown Point Mine Road and the INHT must also be obtained.

- The proposed constructed facilities are generally located on State of Alaska lands. These lands were patented to the State of Alaska under the Alaska Statehood Act on September 21, 1992. The Forest Service retained reservations and easements for continued public access to National Forest System lands. The United States reserved a 60-foot wide road easement on the Crown Point Road. Reconstruction and use of the Crown Point Road would require Forest Service authorization.
- The Forest Service has been granted a 1000-foot wide trail easement from the State of Alaska for the INHT. Any use on or adjacent to the land encumbered by the easement must not unreasonably interfere with the rights granted to the United States. The United States, acting by and through the USDA Forest Service, is responsible for the administration of the easement including the right to regulate occupancy and use.

Inventoried Roadless Area

The National Forest portion of the project area is located in the Kenai Mountains Roadless Area. The effects of the proposed project on the Roadless character should be fully analyzed, including vegetation clearing along the shoreline of Grant Lake. The Secretary of Agriculture has reserved decision authority on projects within Inventoried Roadless Areas.

Aesthetic Resources

Effects of project construction, facilities and operation on the aesthetic values of the project area should also consider aerial views. Trail Lake provides a base for commercial and non-commercial flightseeing activities.

Socioeconomics

The project effects on subsistence use should include rural residents. Section 811 of the Alaska National Interest Lands Conservation Act (ANILCA) requires that rural residents engaged in subsistence uses have reasonable access to subsistence resources on public lands. The subsistence analysis will need to include a distinct finding on whether the proposed action may significantly restrict access to subsistence. The communities of Cooper Landing and Hope have customary and traditional use determinations for subsistence fishing, and moose/caribou hunting in the Grant lake area.

Appendix A

Grant Lake Hydroelectric Project

FERC No. 13212

**USDA Forest Service
Alaska Region
Chugach National Forest**

Preliminary 4(e) Terms and Conditions

General

License articles contained in the Federal Energy Regulatory Commission's (Commission) Standard Form L-1 issued by Order No. 540, dated October 31, 1975, cover those general requirements that the Secretary of Agriculture, acting by and through the USDA Forest Service, considers necessary for adequate protection and utilization of the land and related resources of the Chugach National Forest. Under authority of section 4(e) of the Federal Power Act (16 U.S.C. 797(e)), the following terms and conditions are deemed necessary for adequate protection and utilization of National Forest System lands and resources. These terms and conditions are based on those resources enumerated in the Organic Administration Act of 1897 (30 Stat. 11), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Land and Resources Management Plans prepared in accordance with the National Forest Management Act. Therefore, pursuant to section 4(e) of the Federal Power Act, the following conditions covering specific requirements for protection and utilization of the National Forest System lands shall also be included in any license issued for the Grant Lake Hydroelectric Project (Project).

Condition No. 1 - Requirement to Obtain a Forest Service Special-Use Authorization

The Licensee shall obtain a special-use authorization from the USDA Forest Service for the occupancy and use of National Forest System lands. The licensee shall obtain the executed authorization before beginning ground-disturbing activities on National Forest System lands or within one year of license issuance if no construction or reconstruction was proposed in the application for license.

The Licensee may commence ground-disturbing activities authorized by the License and special-use authorization no sooner 60 days following the date the licensee files the USDA Forest Service special-use authorization with the Commission, unless the Commission prescribes a different commencement schedule.

In the event there is a conflict between any provisions of the license and USDA Forest Service special-use authorization, the special-use authorization shall prevail to the extent that the USDA Forest Service, in consultation with the Commission, deems necessary to protect and utilize National Forest System resources.

Condition No. 2 – Forest Service Approval of Final Design

Prior to undertaking activities on National Forest System lands, the Licensee shall obtain written approval from the USDA Forest Service for all final design plans for project components that the USDA Forest Service deems as affecting or potentially affecting National Forest System lands and resources. As part of such prior written approval, the USDA Forest Service may require adjustments in final design plans and facility locations to preclude or mitigate impacts and to assure that the project is compatible with on-the-ground conditions. Should the USDA Forest Service, the Commission, or the Licensee determine that necessary changes are a substantial change; the Licensee shall follow the procedures of Article 2 of the license. Any changes to the license made for any reason pursuant to Article 2 or Article 3 shall be made subject to any new terms and conditions the Secretary of Agriculture may make pursuant to section 4(e) of the Federal Power Act.

Condition No. 3 – Approval of Changes

Notwithstanding any license authorization to make changes to the Project, when such changes directly affect NFS lands and easements the Licensee shall obtain written approval from the Forest Service prior to making any changes in any constructed Project features or facilities, or in the uses of Project lands and waters or any departure from the requirements of any approved exhibits filed with the Commission. Following receipt of such approval from the Forest Service, and a minimum of 60- days prior to initiating any such changes, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the Forest Service for such changes.

The Licensee shall file an exact copy of this report with the Forest Service at the same time it is filed with the Commission. This condition does not relieve the Licensee from other requirements of this license.

Condition No. 4 – Consultation

The Licensee shall, beginning the first full calendar year after license acceptance, participate in annual meetings with the Forest Service to present Project operation and maintenance activities planned for the next calendar year. In addition, Licensee shall present results from current year monitoring of invasive plants and other resources. The goals of this meeting are to share information, mutually agree upon planned maintenance activities, identify concerns that the Forest Service may have regarding activities and their potential effects on sensitive resources, and any measures required to avoid or mitigate potential effects. The date of the consultation meeting will be between January 10 and March 15 of each year, as mutually agreed to by the Licensee and the Forest Service. Representatives from the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), Alaska Department of Fish and Game (ADF&G), interested tribes, other interested agency representatives, and other interested parties concerned with operation of the Project may attend the meeting.

Consultation shall include, but not be limited to:

- A status report regarding implementation of license conditions;
- Results of any monitoring studies performed over the previous year in formats agreed to by the Forest Service and the Licensee during development of implementation plans;
- Review of any non-routine maintenance;
- Discussion of any foreseeable changes to Project facilities or features;
- Discussion of any necessary revisions or modifications to implementation plans approved as part of this license;
- Discussion of needed protection measures for species newly listed as threatened, endangered, or sensitive, or changes to existing management plans that may no longer be warranted due to delisting of species or, to incorporate new knowledge about a species requiring protection;
- Discussion of elements of current year maintenance plans, e.g. access route maintenance; and
- Discussion of any planned pesticide use.

A record of the meeting shall be kept by the Licensee and shall include any recommendations made by the Forest Service for the protection of NFS lands and resources. The Licensee shall file the meeting record, if requested, with the Commission no later than 60 days following the meeting.

Copies of other reports related to Project safety and non-compliance shall be submitted to the Forest Service concurrently with submittal to the FERC. These include, but are not limited to: any non-compliance report filed by the Licensee, geologic or seismic reports, and structural safety reports for facilities located on or affecting NFS lands.

The Forest Service reserves the right, after notice and opportunity for comment, to require changes in the Project and its operation through revision of the Section 4(e) conditions to accomplish protection and utilization of NFS lands and resources.

Condition No. 5 - Compliance with Regulations

The Licensee shall comply with the regulations of the Department of Agriculture for activities on NFS lands, and all applicable Federal, State, county, and municipal laws, ordinances, or regulations in regards to the area or operations on or directly affecting NFS lands, to the extent those laws, ordinances or regulations are not preempted by federal law.

Condition No. 6 – Surrender of License or Transfer of Ownership

Prior to any surrender of this license, the Licensee shall provide assurance acceptable to the Forest Service that Licensee shall restore any Project area directly affecting NFS lands or easements to a condition satisfactory to the Forest Service upon or after surrender of the license, as appropriate. To the extent restoration is required, Licensee shall prepare a restoration plan which shall identify the measures to be taken to restore such NFS lands and shall include or identify adequate financial mechanisms to ensure performance of the restoration measures. In the event of any transfer of the license or sale of the Project, the Licensee shall assure that, in a manner satisfactory to the Forest Service, the Licensee or transferee will provide for the costs of surrender and restoration. If deemed necessary by the Forest Service to assist it in evaluating the Licensee's proposal, the Licensee shall conduct an analysis, using experts approved by the Forest Service, to estimate the potential costs associated with surrender and restoration of any Project area directly affecting NFS lands to Forest Service specifications. In addition, the Forest Service may require the Licensee to pay for an independent audit of the transferee to assist the Forest Service in determining whether the transferee has the financial ability to fund the surrender and restoration work specified in the analysis.

Condition No. 7- Protection of United States Property

The Licensee, including any agents or employees of the Licensee acting within the scope of their employment, shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this license.

Condition No. 8 – Indemnification

The Licensee shall indemnify, defend, and hold the United States harmless for:

- any violations incurred under any laws and regulations applicable to, or
- judgments, claims, penalties, fees, or demands assessed against the United States caused by, or
- costs, damages, and expenses incurred by the United States caused by, or
- The releases or threatened release of any solid waste, hazardous substances, pollutant, contaminant, or oil in any form in the environment related to the construction, maintenance, or operation of the Project works or of the works appurtenant or accessory thereto under the license.

The Licensee's indemnification of the United States shall include any loss by personal injury, loss of life or damage to property caused by the construction, maintenance, or operation of the Project works or of the works appurtenant or accessory thereto under the license.

Indemnification shall include, but is not limited to, the value of resources damaged or destroyed; the costs of restoration, cleanup, or other mitigation; fire suppression or other types of abatement costs; third party claims and judgments; and all administrative, interest, and other legal costs. Upon surrender, transfer, or termination of the license, the Licensee's obligation to indemnify and hold harmless the United States shall survive for all valid claims for actions that occurred prior to such surrender, transfer or termination.

Condition No. 9 - Damage to Land, Property, and Interests of the United States

The Licensee has an affirmative duty to protect the land, property, and interests of the United States from damage arising from the Licensee's construction, maintenance, or operation of the Project works or the works appurtenant or accessory thereto under the license. The Licensee's liability for fire and other damages to NFS lands shall be determined in accordance with the Federal Power Act and standard Form L-1 Articles 22 and 24.

Condition No. 10 - Risks and Hazards on National Forest System Lands

As part of the occupancy and use of the Project area, the Licensee has a continuing responsibility to reasonably identify and report all known or observed hazardous conditions on or directly affecting NFS lands or easements within the Project boundary that would affect the improvements, resources, or pose a risk of injury to individuals. Licensee will abate those conditions, except those caused by third parties or related to the occupancy and use authorized by the License. Any non-emergency actions to abate such hazards on NFS lands shall be performed after consultation with the Forest Service. In emergency situations, the Licensee shall notify the Forest Service of its actions as soon as possible, but not more than 48 hours, after such actions have been taken. Whether or not the Forest Service is notified or provides consultation, the Licensee shall remain solely responsible for all abatement measures performed. Other hazards should be reported to the appropriate agency as soon as possible.

Condition No. 11 - Access

The Forest Service reserves the right to use or permit others to use any part of the licensed area on NFS lands for any purpose, provided such use does not interfere with the rights and privileges authorized by this license or the Federal Power Act.

Condition No. 12 - Maintenance of Improvements

The Licensee shall maintain all its improvements and premises on National Forest System lands or easements to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the USDA Forest Service. The Licensee shall comply with all applicable Federal, State, and local laws, regulations, including but not limited to, the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., the Resources Conservation and Recovery Act, 42 U.S.C. 6901 et seq., the Comprehensive Environmental Response, Control, and Liability Act, 42 U.S.C. 9601 et seq., and other relevant environmental laws, as well as public health and safety laws and other laws relating to the siting, construction, operation, maintenance of any facility, improvement, or equipment.

Condition No. 13 - Surveys, Land Corners

The Licensee shall avoid disturbance to all public land survey monuments, private property corners, and forest boundary markers. In the event that any such land markers or monuments on NFS lands are destroyed by an act or omission of the Licensee, in connection with the use and/or occupancy authorized by this license, depending on the type of monument destroyed, the Licensee shall reestablish or reference same in accordance with (1) the procedures outlined in the "Manual of Instructions for the Survey of the Public Land of the United States," or (2) the specifications of the Forest Service. Further, the Licensee shall ensure that any such official survey records affected are amended as provided by law.

Condition No. 14 – Pesticide Use Restrictions on National Forest System Lands

Pesticides may not be used on NFS lands or in areas affecting NFS lands to control undesirable woody and herbaceous vegetation, aquatic plants, insects, rodents, non-native fish, etc., without the prior written approval of the Forest Service. During the Annual Consultation Meeting described in Condition 4, the Licensee shall submit a request for approval of planned uses of pesticides for the upcoming year. The Licensee shall provide at a minimum the following information essential for review:

- whether pesticide applications are essential for use on NFS lands;
- specific locations of use;
- specific herbicides proposed for use;
- application rates;

- dose and exposure rates; and
- Safety risk and timeframes for application.

Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the report was submitted. In such an instance, an emergency request and approval may be made.

Pesticide use will be excluded from NFS lands within 500 feet of known locations of Western Toad, or known locations of Forest Service Special Status or culturally significant plant populations. Application of pesticides must be consistent with Forest Service riparian conservation objectives.

On NFS lands, the Licensee shall only use those materials registered by the U.S. Environmental Protection Agency and consistent with those applied by the Chugach National Forest and approved through Forest Service review for the specific purpose planned. The Licensee must strictly follow label instructions in the preparation and application of pesticides and disposal of excess materials and containers.

Condition No. 15 - Modifications of 4(e) Conditions after Biological Opinion or Certification

The Forest Service reserves the right to modify these conditions, if necessary, to respond to any Final Biological Opinion issued for this Project by the National Marine Fisheries Service, United States Fish and Wildlife Service; or any Certification issued for this Project by the State of Alaska.

Condition No. 16 – Signs

The Licensee shall consult with the USDA Forest Service prior to erecting any signs on National Forest System lands and easements relating to this license. The Licensee must obtain the approval of the USDA Forest Service as to the location, design, size, color, and message. The Licensee shall be responsible for maintaining all Licensee erected signs to neat and presentable standards.

Condition No. 17 – Additional Ground Disturbing Activities

If the Licensee proposes ground-disturbing activities on or directly affecting NFS lands or easements that were not specifically addressed in the Commission's NEPA processes, the Licensee, in consultation with the Forest Service, shall determine the scope of work and potential for Project-related effects, and whether additional information is required to proceed with the planned activity.

Upon Forest Service request, the Licensee shall enter into an agreement with the Forest Service under which the Licensee shall fund a reasonable portion of Forest Service's staff time and expenses for staff activities related to the proposed activities.

Condition No. 18 – Implementation and Modification of Forest Service Conditions

(Applies only to issuance of Special Use Permit after licensing)

The USDA Forest Service reserves the authority to modify USDA Forest Service 4(e) terms and conditions if upon completion of the USDA Forest Service administrative appeals process at 36 Code of Federal Regulations (CFR) Part 214, the Chief, USDA Forest Service, or Secretary of Agriculture directs that substantial changes to the terms and conditions submitted herein be made.

Condition 19 - Use of Explosives

In the use of explosives, the Licensee shall exercise the utmost care not to endanger life or property and shall comply with Federal, State and local laws and ordinances. The Licensee shall contact the USDA Forest Service prior to blasting to obtain the requirements of the USDA Forest Service. The Licensee shall be responsible for any and all damages resulting from the use of explosives and shall adopt precautions to prevent damage to surrounding objects. The Licensee shall furnish and erect special signs to warn the public of the Licensee's blasting operations. The Licensee shall place and maintain such signs so they are clearly evident to the public during all critical periods of the blasting operations.

The Licensee shall store all explosives on National Forest System lands and Licensee adjoining fee title property in compliance with all applicable Federal, State and local laws and ordinances.

When using explosives on National Forest System lands and Licensee adjoining fee title property, the Licensee shall adopt precautions to prevent damage to landscape features and other surrounding objects. When directed by the USDA Forest Service, the Licensee shall leave trees within an area designated to be cleared as a protective screen for surrounding vegetation during blasting operations. The Licensee shall remove and dispose of trees so left when blasting is complete. When necessary, and at any point of special danger, the Licensee shall use suitable mats or some other approved method to smother blasts.

Condition No. 20 – Resource Management Plans

Within one year of license issuance, and in consultation with the Forest Service and applicable Federal and State agencies, the Licensee shall file with the Commission the following plans addressing specific resource issues covered by the Chugach National Forest Land and Resource Management Plan.

The licensee shall submit the draft plans for Forest Service review and approval, prior to submitting the plans to the Commission. The licensee shall provide at least 90 days for Forest Service review and approval before the filing deadline in the license.

Upon Commission approval, Licensee shall implement the Plans. The plans shall include the following:

- a) Construction Plan**
- b) Reservoir Management and Inundation Plan**
- c) Hazardous Substances Plan**
- d) Fire Prevention Plan**
- e) Heritage Resource Protection Plan**
- f) Scenery Management Plan**
- g) Vegetation Management Plan**
- b) Invasive Species Management Plan**
- i) Wildlife Mitigation and Monitoring Plan**
- j) Fish Mitigation and Monitoring Plan**
- k) Threatened, Endangered, Proposed for Listing, and Sensitive Species Plan**
- l) Aquatic Habitat Restoration and Monitoring Plan**
- m) Erosion and Sediment Control Plan**
- n) Solid Waste and Waste Water Plan**
- o) Spoil Disposal Plan**

The Plans shall include resource management objectives tied to the Chugach National Forest Land and Resource Management Plan and an implementation schedule.

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail /One on One Meeting Log

Contact Name: Katie McCafferty

Agency/Organization: Army Corps of Engineers

Phone No./E-mail Address: 907-753-2692

Date: 6/29/15

Time: 1:15 pm PST

Grant Lake Licensing Team Contact: Cory Warnock

Summary of Conversation and/or E-mail Exchange: Mr. Warnock called Ms. McCafferty upon receiving her response to KHL's 404 permit application and associated request for additional information. He stated that some of the detailed information the ACOE was looking for wouldn't be developed until after the FLA was filed and additional design steps had been taken. Given this, he wanted to confirm that finalization of the 404 application and integration of the additional information that was request could occur at a later date beyond the 30 day response period described in the letter. Ms. McCafferty confirmed that this would be appropriate and acceptable.

Call Time – Approximately 5 minutes

FEDERAL ENERGY REGULATORY COMMISSION

Washington, D.C. 20426

July 9, 2015

OFFICE OF ENERGY PROJECTS

Project No. 13212-000 – Alaska
Grant Lake Hydroelectric Project
Kenai Hydro, LLC

Mike Salzetti
Manager of Fuel Supply & Renewable Energy Development
Kenai Hydro, LLC
3977 Lake Street
Homer, AK 99603

Reference: Review of Draft Resource Management Plans for the Proposed Grant Lake Hydroelectric Project

Dear Mr. Salzetti:

On May 18, 2015, Kenai Hydro, LLC (KHL) submitted the following draft resource management plans (draft plans):

- Draft Grant Lake Project Operation Compliance Monitoring Plan (OCMP)
- Draft Grant Lake Project Avian Protection Plan (APP)
- Draft Grant Lake Project Historic Properties Management Plan (HPMP)
- Draft Grant Lake Project Vegetation Management Plan (VMP)
- Draft Grant Lake Project Biological Evaluation for Plants (BE)

Subsequently, on June 2, 2015, KHL filed its *Draft Biotic Monitoring Plan* (BMP) for our review and comment.

We have reviewed the draft plans and have comments on the OCMP, BMP, APP and the HPMP. We provide these comments in the attached Schedule A.

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If you have any questions or concerns you may reach me at (202) 502-8434, or via email at: Kenneth.hogan@ferc.gov.

Sincerely,

Kenneth Hogan, Project Coordinator
West Branch
Division of Hydropower Licensing

Attachment: Schedule A – Comments on Draft Resource Management Plans

cc: Mailing List
Public File

Schedule A

Comments on Draft Resource Management Plans

for the

Grant Lake Hydroelectric Project

Grant Lake Hydroelectric Project

Project No. 13212-000

Schedule A

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General Comment for All Draft Resource Management Plans

When preparing the final resource management plans, please attach an appendix to each final plan that includes the comments made on that plans draft, KHL's responses to the comments, and whether KHL incorporated them or not, and if not incorporated, KHL's reasons why.

Draft Operational Compliance Monitoring Plan

The draft Operation Compliance Monitoring Plan (OCMP) details how water temperatures will be monitored within Grant Lake, Grant Creek, and through project facilities. Section 4 *Reporting and Coordination*, includes provisions to annually report all compliance monitoring activities and results. However, the OCMP does not include a provision for Kenai Hydro, LLC (KHL) to promptly notify the resource agencies and the Federal Energy Regulatory Commission (Commission) shortly after a "non-compliance" event is documented. Including a provision in the OCMP for KHL to promptly notify state and federal resource agencies of a non-compliance event would allow the agencies and the Commission to assess the situation and take timely corrective actions to protect environmental resources.

Draft Biotic Monitoring Plan*Section 2 – Information and Data*

In section 2.1 *Historical Fisheries Information and Data*, the draft Biotic Monitoring Plan (BMP) states that Grant Creek was divided into 6 study reaches and that relative abundance and distribution of juvenile fish were determined for each reach. However, no data for reach 6 is provided, other than a statement that "rainbow trout were caught throughout the creek" and "[a]dult rainbow trout were observed in the upper portions of the canyon reach" (although it is unclear where the "canyon reach" is located, as it has not been defined in the BMP). Similarly, while section 2.2 *Summary of the 2013 Fisheries Research*, states that information on adult rainbow trout and Dolly Varden spawning and feeding was collected, no data for reach 6 was presented.

In section 2.3 *Summary of Projected Project Impacts*, the discussion and analysis of potential project effects and benefits in Grant Creek is limited to reaches 1 through 5. There is no discussion of potential project effects on reach 6, which extends from the base of a downstream waterfall to the Grant Lake outlet. Based on our understanding of the proposed project design and operations, reach 6 is likely to be the most severely affected reach within Grant Creek. Project drawdown operations result in reduced flow in reach 6 year-round, and when the surface elevation of Grant Lake is drawn below 703

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feet NAVD 88, reach 6 may become dewatered. However, while this concern may not be relevant to the BMP, it must be addressed in the final license application

Section 3 Biotic Monitoring During Construction

Section 3 of the BMP describes the method and timing for monitoring juvenile and adult salmonid populations during the project's two year construction timeframe. However, the BMP does not include any actions to be taken in the event monitoring results demonstrate an unexpected or unacceptable effect on those populations. The BMP should describe how the monitoring data would be used and should also identify corrective actions or a process for developing corrective actions, in the event monitoring results demonstrate an unexpected or unacceptable effect on the salmonid populations in Grant Creek.

Section 4 – Biotic Monitoring During Project Operation

In section 4.1 *Potential Project-related effects on fish from Project Operations*, the BMP identifies decreased sediment recruitment and flows in reach 5 as a potential project effect. Based on our review of the proposed project description and operation, it appears that these potential effects may also occur in reach 6; however, the BMP makes no mention of potential effects to reach 6.

Section 4 of the BMP describes the method and timing for monitoring juvenile and adult salmonid populations during the project's operation. However, the BMP does not include any actions to be taken in the event monitoring results demonstrate an unexpected or unacceptable effect on salmonid populations. The BMP should describe how monitoring data would be used and should also identify corrective actions or a process for developing corrective actions, in the event monitoring results demonstrate an unexpected or unacceptable effect on the salmonid populations in Grant Creek.

Section 5 – Biological Monitoring for Enhancement/Mitigation Measures

In section 5.1 *Proposed Protection, Mitigation and Enhancement*, the BMP states that spawning substrate is naturally limited within Grant Creek and that the proposed monitoring would evaluate the need for channel maintenance flows and/or gravel supplementation within the mainstem of Grant Creek. Section 5.3.3 *Gravel Supplementation/Channel Maintenance Methodologies* specifies that channel maintenance flows and gravel augmentation will be provided as appropriate and in consultation with stakeholders. Section 5.4 *Schedule*, states that "[o]nce PM&E measures are in place," efficacy surveys during years 2 and 5 post-construction will be

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implemented. This section also states that channel maintenance type flows may occur naturally which may negate the need for gravel augmentation in Grant Creek.

Given the above, we find the BMP unclear. It appears that the need for gravel augmentation has not yet been determined, although it is stated that spawning substrate is naturally limited within Grant Creek. In contrast, the statement in section 5.4, that efficacy surveys will be conducted during years 2 and 5, implies that the success of gravel augmentation efforts will be evaluated during those years.

The BMP should articulate the process KHL proposes to implement. Does KHL propose to initially enhance Grant Creek by introducing spawning gravel, and then monitor the efficacy of that effort in order to inform an adaptive management approach on the need for and/or design of future spawning gravel augmentation efforts; or is it KHL's proposal to first evaluate the project operational effects on spawning gravel recruitment to Grant Creek and if a need is determined, to then augment spawning gravel? In either case, the BMP should clearly describe the process KHL proposes to pursue. Additionally, the BMP should specify biological and/or physical thresholds that will be used to determine whether future (post 2- and 5-year surveys) spawning gravel augmentation will be applied.

Draft Avian Protection Plan

Section 5 – Avian Protection Measures

In section 5.1.1 *Plan of Construction and Operation Timeline*, the Avian Protection Plan (APP) states that removal of vegetation during the breeding season directly impacts avian species protected under the Migratory Bird Treaty Act (MBTA). The APP states that, to the extent practicable, “KHL will adopt best management practices [] associated with the typical vegetation growing season between May 1 and July 15 of construction years.” The APP further states that, “[w]here curtailment of construction activities is not practicable, KHL will conduct nest surveys in advance of vegetation clearing to avoid areas with active nests.” Section 5.1.1 of the APP does not clearly list the best management practices that KHL is proposing to implement to protect avian species, and it is unclear whether the curtailment of construction activities and nest surveys are a part of (or the entire extent of) KHL's proposed best management practices. The APP should fully describe the best management practices that KHL proposes to use to protect avian species, including: (1) a comprehensive list of the best management practices; (2) the circumstances under which these practices will be utilized; and (3) how these practices will reduce project effects.

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Section 5.1.3.2 *Monitoring Associated with Power Lines and Infrastructure Placement*, provides for a review of existing recommended construction configurations for power line and infrastructure placement. We note that the final APP should use the most recent power line construction guidelines, including: (1) Avian Power Line Interaction Committee (APLIC). 2006. *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA; and (2) Avian Power Line Interaction Committee (APLIC). 2012. *Reducing Avian Collisions with Power Lines. The State of the Art in 2012*. Edison Electric Institute and APLIC. Washington, D.C.

Section 5.1.3.2 *Monitoring Associated with Power Lines and Infrastructure Placement*, states that KHL will consider infrastructure design measures to avoid or minimize the impacts of the project's overhead transmission lines on avian species. The APP states that "KHL will develop a list of specific infrastructure design parameters designed for protecting avian species and distribute to stakeholders for comment and approval prior to finalizing and implementing associated construction efforts." However, section 5.1.3.2 does not state that these design measures will be submitted to the Commission with the finalized APP and the final license application. Because the Commission will need to review and approve any such proposed infrastructure design measures prior to project construction and implementation, the APP should include the measures that KHL is proposing to use to minimize the impacts of the project's overhead transmission lines. The APP should also discuss any additional/alternative infrastructure design measures that were proposed by resources agencies and stakeholders, and why KHL has determined such measures are inappropriate.

Section 5.1.3.2 *Monitoring Associated with Power Lines and Infrastructure Placement*, states that KHL will utilize line-transect surveys to determine the effectiveness of the infrastructure design measures used to minimize the impacts of the project's overhead transmission lines. However, the APP does not include any actions to be taken in the event monitoring results demonstrate an unexpected or unacceptable effect on avian species. The APP should describe how the monitoring data would be used and should identify corrective actions or a process for developing corrective actions, in the event monitoring results demonstrate an unexpected or unacceptable effect on avian species within the transmission line corridor.

Grant Lake Hydroelectric Project

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Draft Historic Properties Management Plan*Section 3 - Inventory and Assessment*

In section 3.3 *Background Research*, the right column of Table 1 lists the eligibility status of site SEW-00029 (Alaska Railroad) as: “Nomination Closed”; however, on page 14 it states that KHL and the Alaska SHPO agree that the Alaska Railroad is eligible for the National Register. We are not sure what “Nomination Closed” means. Please clarify.

In section 3.4 *Field Inventory*, in the last paragraph of page 17, there is a reference to Appendix E of the Second Amended Programmatic Agreement Among the USDA Forest Service, Alaska Region, the Advisory Council on Historic Preservation and the Alaska State Historic Preservation Officer Regarding Heritage Resource Management on National Forest in the State of Alaska (USFS 2002). Please attach Appendix E as an appendix to the HPMP.

Section 4 – General Management Measures

In section 4.6 *Previously Unidentified Properties*, on page 25, there should be language added that in the event human remains are found on USFS lands, the FS would be in charge, pursuant to NAGPRA. Please add the additional text.

Section 5 – Site-Specific Management Measures

In section 5 *Site-Specific Management Measures*, on page 26, more information is needed to determine if any portion of the Sawmill-Upper Trail Lake Trail (SEW-01521) would be potentially affected by the proposed project. If a portion of this site would be potentially affected, then the HPMP should state that prior to any construction-related ground disturbing activities within the vicinity of this site, it would be evaluated for National Register eligibility, and if determined eligible, specific measures (please identify) would be taken to resolve any potential adverse effects to it. Please provide this additional information.

In section 5.1.3 *Impact Status*, on page 27, first sentence. It appears that this sentence is incomplete. Please modify the sentence, accordingly.

In section 5.2.3 *Impact Status*, on page 27, there is some question whether a 1904 historic trail runs along the eastern side of the Trail lakes (See section 5.2.1). Although the trail was not located during field surveys, remnants of it may still be affected by the proposed project, if present. Therefore, this portion of the proposed project should be

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monitored in case of an inadvertent discover of the 1904 historic trail. Also, please reconcile this issue in section 5.2.4 on page 28.

Document Content(s)

P-13212-000Letter4.DOC.....1-9

From: Warnock, Cory
Sent: Monday, July 13, 2015 6:58 PM
To: Johnson, Laura; Wahto, Heidi
Cc: Andersen, Emily
Subject: Fwd: Grant Lake Hydroelectric Project Vegetation Management Plan (DeVelice review)
Attachments: grant_lake_veg_manage_plan_rld_review_071315.docx;
grant_lake_be_rld_review_060415.docx

Begin forwarded message:

From: "Stovall, Robert -FS" <rstovall@fs.fed.us>
Date: July 13, 2015 at 6:51:24 PM PDT
To: "Cory Warnock (cory.warnock@mcmillen-llc.com)" <cory.warnock@mcmillen-llc.com>
Cc: "Develice, Rob -FS" <rdevelice@fs.fed.us>, "Keller, Peter C -FS" <pckeller@fs.fed.us>
Subject: FW: Grant Lake Hydroelectric Project Vegetation Management Plan (DeVelice review)

Rob:

Thank you for your review and comments

Cory, Please include these reviews as part of the Forest Service Response which is due by July 15th.

Robert

Below are my review comments regarding the May 2015 “Draft Biological Evaluation for Plants: Grant Lake Hydroelectric Project”:

page	comment
1	Shouldn't “Moose Lake” in the following sentence be Moose Pass? <i>The Project would be located just east of the Seward Highway, near the community of Moose Lake, Alaska approximately 25 miles north of Seward, Alaska.</i>
17	Change the number of sensitive plant species known or suspected to occur on the Seward Ranger District from eight to nine based on the most current version (November 2013) of the Alaska Region Sensitive Plants matrix.
17	Based on the most current version (November 2013) of the Alaska Region Sensitive Plants matrix the following species should be added as suspected to occur on the Seward Ranger District: <i>Cochlearia sessilifolia</i> (sessileleaf scurvygrass) and <i>Tanacetum bipinnatum</i> ssp. <i>huronense</i> (dune tansy). However, neither species is expected in the project area since maritime beaches nor beach meadows are present.
17	Based on the most current version (November 2013) of the Alaska Region Sensitive Plants matrix drop <i>Ligusticum calderi</i> from being suspected to occur on the Chugach National Forest.
17 and 18	<i>Cypripedium guttatum</i> and <i>Romanzoffia unalaschcensis</i> are known to occur on the Chugach National Forest and are suspected on the Seward Ranger district.
18	Rather than “unspecified”, list the nearest known population of <i>Aphragmus eschscholtzianus</i> to the project area as near the headwaters of Palmer Creek.
20	<i>Cypripedium guttatum</i> is historically known to occur on the Chugach National Forest and are suspected on the Seward Ranger district.
21	<i>Romanzoffia unalaschcensis</i> is known to occur on the Chugach National Forest and is suspected on the Seward Ranger district.
24-25	In regard to <i>Papaver alboroseum</i> (pale poppy, which was found in the project area), I agree with the assessment that the overall risk to this plant on the Chugach National Forest as a result of this project viewed in conjunction with other past, present, and reasonably foreseeable projects is low.
25	In regard to <i>Papaver alboroseum</i> (which was found in the project area), I think the consequence of adverse impacts from the project on pale poppy is moderate rather than high. From the description of direct and indirect effects it appears that adverse effects are better described as possible rather than obvious.
25	Similarly, as above, I think the overall risk to pale poppy as a result of the project is moderate rather than moderate to high.
25	At the end of the Determination of Effects section I think it more accurate to conclude “the project may result in a loss of viability of pale poppy in the project area but would not cause a trend toward federal listing”.
25	With mitigation measures, I agree with the determination that the project “may adversely impact individuals, but not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing”.

Below are my review comments regarding the May 2015 *“Grant Lake Hydroelectric Project (FERC No. 13212), Vegetation Management Plan, Draft”*:

page	comment
1	I agree with the statement that the “activities and structures associated with this Project have the potential to impact sensitive plant species and to introduce invasive plants”.
14	Add the following bullet: “To reduce risk of spreading invasive plants begin project operations in uninfested areas before operating in infested areas.”
14	Add the following bullet: “Locate and use project staging areas that are free of invasive plants. Avoid or minimize all types of travel through areas infested with invasive plants, or restrict to those periods when spread of seed or propagules are least likely.”
17	At the bottom of the page it is stated “After invasive plants are removed, bare areas will be seeded”. However, the following two guidelines are listed on page 3-25 of the Forest Plan: “Use natural revegetation where seed source and site conditions are favorable towards achieving revegetation objectives” and “Use native plant species in revegetation/restoration projects when natural revegetation conditions are not favorable.”
18	The draft plan suggests monitoring of invasive plant treatment sites will continue for 2 years after construction is completed to ensure treatments are effective. However, page 12 of the Chugach National Forest Invasive Plant Management Plan states “In general, successful control of the invasive species at the site will be considered as achieved when no occurrence of the species has been documented for five consecutive years of annual monitoring.”

Robert L. DeVelice 7/13/2015

From: Kenneth Hogan <Kenneth.Hogan@ferc.gov>
Sent: Tuesday, July 14, 2015 6:34 AM
To: Warnock, Cory
Cc: Mike Salzetti; Timothy Konnert; Andersen, Emily
Subject: RE: General Correspondence issued in FERC P-13212-000

Sounds good.

Kenneth Hogan | Fishery Biologist | Federal Energy Regulatory Commission | 888 First Street, N.E., Washington, DC 20426
| 202-502-8434 | -----Original Message-----
From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Monday, July 13, 2015 10:51 AM
To: Kenneth Hogan
Cc: Mike Salzetti; Timothy Konnert; Andersen, Emily
Subject: RE: General Correspondence issued in FERC P-13212-000

Hi Ken,

I was on vacation last week but did see the comments come through. Again, I really appreciate your attention to these as I'm sure your comments will assist in making these documents comprehensive. As you know, we've received comments on the DLA and are anticipating comments on the management plans later this week. Our comment response matrix has been developed and once we get all the management plan comments appropriately placed and reviewed, I'll coordinate with Mike and we'll get a call set up with you to discuss any questions we may have.

Thanks!

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

-----Original Message-----
From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Friday, July 10, 2015 5:56 AM
To: Warnock, Cory
Cc: Mike Salzetti; Timothy Konnert
Subject: FW: General Correspondence issued in FERC P-13212-000

Cory,

As I am sure you already know, we issued our comments on KHL's draft resource management plans yesterday. Please let us know if you have any questions or would like to discuss our comments on the DLA and/or the plans.

Ken

Kenneth Hogan | Fishery Biologist | Federal Energy Regulatory Commission | 888 First Street, N.E., Washington, DC 20426
| 202-502-8434 | -----Original Message-----
From: 'FERC eSubscription' [mailto:eSubscription@ferc.gov]

Sent: Thursday, July 09, 2015 3:26 PM
Subject: General Correspondence issued in FERC P-13212-000

On 7/9/2015, the Federal Energy Regulatory Commission (FERC), Washington D.C., issued this document:

Docket(s): P-13212-000
Lead Applicant: Kenai Hydro, LLC
Filing Type: General Correspondence
Description: Letter re Kenai Hydro, LLC's 5/18/15 filing re review of draft resource management plans for the proposed Grant Lake Hydroelectric Project under P-13212.

To view the document for this Issuance, click here
http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20150709-3044

To modify your subscriptions, click here: <https://ferconline.ferc.gov/eSubscription.aspx>

Please do not respond to this email.
Online help is available here:
<http://www.ferc.gov/efiling-help.asp>
or for phone support, call 866-208-3676.
Comments and Suggestions can be sent to this email address: <mailto:FEROnlineSupport@Ferc.gov>

Johnson, Laura

From: Warnock, Cory
Sent: Tuesday, August 04, 2015 5:27 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: RE: Grant Lake Question and Discussion/Meeting (P-13212)

Hi again Ken,

In regard to Mr. Luttrell's comments on the HPMP, I'm still not able to access them even when I am logged-in. Any assistance you could provide would be appreciated.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Tuesday, August 04, 2015 7:51 AM
To: Warnock, Cory <Warnock@mcmjac.com>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: RE: Grant Lake Question and Discussion/Meeting (P-13212)

Hi Cory,

A face-to-face meeting here at FERC in October will work. I'll start soliciting dates that will work for the FERC Team.

Regarding the privileged nature of Mark Luttrell's comments, when accessing eLibrary are you logging-on to your FERC electronic account (see blue banner on left of screen in picture below). If you are logging-on and still have an issue, let me know.

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](http://www.federalenergyregulatory.commission.gov) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Monday, August 03, 2015 3:18 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: Grant Lake Question and Discussion/Meeting (P-13212)

Hi Ken,

As you know, we are in the process of responding to and addressing comments received on both the DLA and the management plans (MP's). Mike and I are currently reviewing our comment responses, addressing areas in both the

DLA and MP's and preparing to provide technical assignments to our resource leads for their input. We only have one outstanding item that I was hoping you could help me with. On June 14th, Mark Luttrell filed privileged comments related to the Grant Lake HPMP but all that was viewable/accessible was the cover letter. There may be something that I'm missing or not thinking about but if you could either give me appropriate direction on accessing it or shoot it my way, it would be appreciated.

On another note and with respect to your offer to have a discussion with you and your technical staff related to FERC comments on both the DLA and MP's, I wanted to discuss a potential meeting opportunity and check on your receptivity to it. Mike is currently in the early stages of planning a trip back to Washington D.C. in October to meet with some of Alaska's delegation. While back there, we are wondering if it would be possible to also schedule some time with you and the other technical folks that have been/will be involved in reviewing the FLA and associated documents to discuss comments, our proposed responses/revisions and any other relevant global topics in advance of the FLA filing. As you recall, our plan is to file the FLA in December. Having a meeting in early October would give us a couple of months to assess any additional input and/or advice we receive from your staff and revise things accordingly. Please let me know your thoughts and if that would be possible on your end, let's start working toward a date/time that will work for all those from FERC that you'd like to attend.

Thanks Ken!

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Tuesday, August 04, 2015 5:21 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: RE: Grant Lake DLA Meeting

Thanks Ken. I added my name to the poll, forwarded to Mike and asked him to do the same. Once you hear back from everyone on your end, let me know the preferred date(s) and you and I can coordinate to finalize.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Tuesday, August 04, 2015 8:03 AM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: FW: Grant Lake DLA Meeting

Cory - I established a doodle poll to solicit the FERC teams availability for the meeting in October. The link in the following email will take you to the poll if you want to monitor progress or indicate which dates may work for Kenai hydro.

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Kenneth Hogan
Sent: Tuesday, August 04, 2015 11:00 AM
To: James Fargo; Adam Beeco; Nicholas Tackett; Alan Mitchnick; Frank Winchell
Cc: Timothy Konnert
Subject: Grant Lake DLA Meeting

Team,

In October, Kenai Hydro would like to have a face-to-face meeting with us to discuss our comments on the DLA. I established a doodle poll that identifies the dates I will be in the office and not otherwise conflicted. From the dates indicated in the poll, please select all of the dates you will be in the office and not otherwise conflicted. Thanks.

<http://doodle.com/wzd66qe3ggf9k9y>

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Mark Luttrell [<mailto:prufrock@arctic.net>]
Sent: Friday, August 07, 2015 10:13 AM
To: Michael Yarborough <salvagerecovery@gmail.com>; Bittner Judy <judy.bittner@alaska.gov>; Duvall, Shina A (DNR) <shina.duvall@alaska.gov>; Sherry Kime <sherrydkime@fs.fed.us>; Frank Winchell <Frank.Winchell@ferc.gov>; Lesli Schick <lesli.schick@alaska.gov>; jbrune@ciri.com; Mike Salzetti <MSalzetti@homerelectric.com>; Warnock, Cory <Warnock@mcmjac.com>; Andersen, Emily <Andersen@mcmjac.com>
Subject: Comments on KHL's HPMP

Hi all:

Frank Winchell of FERC suggested that I provide members of the Grant Lake Hydro proposal cultural resources working group a copy of my comments on the HPMP submitted by KHL.

Thanks

Mark Luttrell

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail /One on One Meeting Log

Contact Name: Ken Hogan

Agency/Organization: FERC

Phone No./E-mail Address: 603-483-2804

Date: 8/7/15

Time: 9:00am (PST)

Grant Lake Licensing Team Contact: Cory Warnock

Summary of Conversation and/or E-mail Exchange: Cory Warnock had a brief call with Ken Hogan to discuss the process for accessing Mark Luttrell's HPMP comments related to the Grant Lake Project. Mr. Hogan stated that he had spoken to Frank Winchell (FERC cultural rep) regarding the list of individuals able to access "privileged" documentation and was informed that FERC doesn't keep that list anymore and accessing that document would need to be done directly with Mr. Luttrell. Mr. Winchell was currently attempting to get in touch with Mr. Luttrell and request that he send a copy of the comments not only to Mr. Warnock but also to the rest of the cultural group with appropriate credentials. Mr. Hogan stated that if Mr. Warnock hadn't heard from Mr. Luttrell by Monday, he should send him an email requesting the comments.

Mr. Warnock and Mr. Hogan then briefly coordinated on appropriate dates for a Grant Lake Project meeting in Washington D.C. with appropriate FERC representatives in October. Plans are to be finalized in the coming week.

Call Time – Approximately 5 minutes.

From: Warnock, Cory
Sent: Friday, August 14, 2015 3:25 PM
To: 'Kenneth Hogan' <Kenneth.Hogan@ferc.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>
Subject: RE: CORRECTION Grant Lake Meeting

Hi Ken,

I've coordinated with Mike and we've selected the 21st of October (Wednesday) for our meeting. Would a meeting at 9:00am (EST) work for all of your folks. If so, we'll make our travel plans accordingly and likely come in the night before.

Thanks for getting this all set up and let me know,

Cory

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan [<mailto:Kenneth.Hogan@ferc.gov>]
Sent: Tuesday, August 11, 2015 4:50 AM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: Re: CORRECTION Grant Lake Meeting

Cory Please ignore the dates in the previous email. I haven't had my coffee yet. We propose **Wednesday the 21st** (Not Tuesday), **Tuesday the 27th** (not Wednesday the 26th), or **Wednesday the 28th** (not Thursday the 27th).

Please let me know if you have any questions.

Ken



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Most popular date: several
Close poll

October 2015

Wed 7	Thu 8	Fri 9	Wed 21	Thu 22	Fri 23	Mon 26	Tue 27	Wed 28
4	3	1	6	5	3	6	6	6

6 participants

Jim F	☒	☒	☐	☒	☒	☐	☒	☒	☒
Adam Beeco	☐	☐	☐	☒	☒	☒	☒	☒	☒
Nick Tackett	☒	☒	☒	☒	☒	☒	☒	☒	☒
Cory Warnock	☐	☐	☐	☒	☒	☒	☒	☒	☒
Alan Mitchnick	☒	☒	☐	☒	☒	☐	☒	☒	☒
Frank Winchell	☒	☐	☐	☒	☐	☐	☒	☒	☒
	4	3	1	6	5	3	6	6	6

Cancel

Save

From: Kenneth Hogan
Sent: Tuesday, August 11, 2015 7:43 AM
To: Warnock, Cory
Subject: Grant Lake Meeting

Cory, we propose Tuesday the 21st, Wednesday the 26th, or Thursday the 27th of October for our meeting. Please select a date and time that will work for you and let me know so that we may block our calendars. Thanks.

Ken

P.S. I could also have a teleconference line made available if you have any team members that shoule participate but wont be traveling to DC.

Johnson, Laura

From: Warnock, Cory
Sent: Wednesday, September 09, 2015 2:21 PM
To: 'Monte Miller'; Jeffry Anderson
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: Grant Lake Meeting

Hello Monte and Jeff,

KHL has gotten to the point with their refinement of both the Grant Lake FLA and the associated Management Plans (MP's) where we would like to have a meeting with both of your agencies to go over some of the comments on both that we (and likely you) feel warrant additional collaboration and development. We are in the process of responding to all comments received and modifying our various documents accordingly. As such and given our current status, I'd like to propose a one day meeting sometime during the week of October 5th (Tues (6th), Wed (7th), or Thurs (8th) if possible). The meeting would be held in Anchorage and likely take a majority of the day. If you could check with the internal folks that you'd like to attend such a meeting and get back to me regarding availability, I'll start to get things set up. If by chance none of those days work, please suggest a few alternate days around that timeframe that do and we'll assess our availability internally.

On the same topic, it is noteworthy that many of ADF&G's comments associated with the FLA and the MP's were related to access to the draft Exhibit F and the associated infrastructural detail that exists there. As you are aware, due to the crazy world we live in these days, FERC requires that this type of detail (and a majority of Exhibit F) be designated as CEII when filed. That said, KHL obviously has no issue with your agencies reviewing Exhibit F and in fact, would prefer it. We feel strongly that it will alleviate many of your questions/recommendations cited in your response to the DLA and the MP's. As such, we are currently in the process of developing a quick note to sign confirming that anyone reviewing the exhibit will keep it confidential. You should see that by early next week and once we receive a signed copy, we quickly send you a copy of the draft Exhibit F.

Thanks to both of you. Look forward to hearing from you regarding the meeting and to seeing you in October.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Friday, September 11, 2015 10:18 AM
To: 'Monte Miller'; Jeffry Anderson
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: NDA for Receiving CEII Information (Exhibit F)
Attachments: FERCgen-nda.pdf

Hi Monte and Jeff,

While I'm waiting to hear from both of you regarding a meeting during the week of October 5th and per my commitment, I'm attaching the general FERC Non-Disclosure Agreement for your review and ultimate signature. Prior to signing however, it would be appropriate for both of your agencies to make a formal request to FERC to receive the documentation. I want to be clear that KHL is by no means requesting that your agencies do any of this out of any sort of suspicion or to delay review. Rather, KHL just wants to make sure that FERC is kept apprised of all parties that have access to CEII information. Please let me know once you are able to make the formal request (I'll see it on the record as well) and I'll do my best to get the process expedited and get you the Exhibit F as soon as possible. Thanks and let me know if you have any questions.

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

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warnock@mcmjac.com

Alaska Region Sensitive Plants November 2013

Plant Name			General Habitat																		Ranger District													
Scientific Name	USDA Plant code	Common Name	Human disturbance historic well drained	Maritime beach	Upper beach meadow	Well drained open areas	Tall shrubland	Beach/ forest ecotone	Forest edge	Forest	Open forest	Streamside, riverbank	Bog	Heath	Dry meadow	Wet meadow	Alpine and subalpine	Talus slopes	Rock outcrop	Ultramafic	Calcareous	SEWARD	GLACIER	CORDOVA	YAKUTAT	JUNEAU	ADMIRALTY	HOONAH	SITKA	PETERSBURG	WRANGELL	KETCHIKAN	CRAIG	THORNE BAY
<i>Aphragmus eschscholtzianus</i>	APES	Eschscholtz's little nightmare															X					K	S	S	S	S								
<i>Botrychium spathulatum</i>	BOSP4	Spatulate moonwort	X		X	X											X				X			S	S	K	S	S	K			S	S	S
<i>Botrychium tunux</i>	BOTU3	Moosewort fern	X		X	X											X				X	S	S	S	K	S	K	K	K		K		K	S
<i>Botrychium yaaxudakeit</i>	BOYA	Moonwort fern, no common name	X		X	X															X	S	S	S	K	S	S	K	S					
<i>Cirsium edule</i> var. <i>macounii</i>	CIEDM	Edible thistle													X		X	X											S	S	K			
<i>Cochlearia sessilifolia</i>	COSE8	Sessileleaf scurvygrass		X																		S	S	K										
<i>Cypripedium guttatum</i>	CYGU	Spotted lady's slipper					X				X					X						S	K	S										
<i>Cypripedium montanum</i>	CYMO2	Mountain lady's slipper			X			X			X					X					X					S	S	S		S	K	S		
<i>Cypripedium parviflorum pubescens</i> var.	CYPAP3	Large yellow lady's slipper											X		X	X					X		S	S		S					S	S	K	
<i>Ligusticum calderi</i>	LICA15	Calder's loveage							X						X	X	X				X						S	S	S	S	S	S	K	S
<i>Lobaria amplissima</i>	LOAM6	Lichen, no common name						X																S	K	S	S	S	K	K	K	K	K	
<i>Papaver alboroseum</i>	PAAL5	Pale poppy	X			X									X		X					K	K	K	S	S								
<i>Piperia unalascensis</i>	PIUN3	Alaska rein orchid									X	X	X	X						X		S	S	S	S	S	S	S	K	S	S	S	S	
<i>Platanthera orbiculata</i>	PLOR4	Lesser round-leaved orchid						X	X	X		X																	S	K	K	K	K	
<i>Polystichum kruckebergii</i>	POKR	Kruckeberg's swordfern																X	X	X						S	S		K	S	S	K	S	
<i>Romanzoffia unalascensis</i>	ROUN	Unalaska mist-maid						X			X								X			S	S	K	S	S		K	S			S	K	
<i>Sidalcea hendersonii</i>	SIHE4	Henderson's checkermallow			X		X																S	S	K	S	S	S	S	S	S	S	S	
<i>Tanacetum bipinnatum</i> subsp. <i>huronense</i>	TABIH	Dune tansy			X																	S	S	S	S	S	S	K			S	S	S	

Johnson, Laura

From: Charnon, Betty -FS <bcharnon@fs.fed.us>
Sent: Thursday, September 17, 2015 9:34 AM
To: Johnson, Laura
Cc: Stensvold, Mary -FS
Subject: RE: Grant Lake Biological Evaluation document request

Laura, I'm not sure what the citation should be... Try: Stensvold, M.C. 2013. Alaska Region Sensitive Plant Matrix. US Forest Service, Alaska Region.



Betty Charnon
Ecologist
Forest Service
Chugach National Forest,
Kenai Peninsula Zone

p: 907-754-2326
bcharnon@fs.fed.us

P.O. Box 129
Girdwood, AK 99587
www.fs.fed.us



**Caring for the land and serving
people**

From: Johnson, Laura [<mailto:ljohnson@mcmjac.com>]
Sent: Thursday, September 17, 2015 8:28 AM
To: Charnon, Betty -FS
Subject: RE: Grant Lake Biological Evaluation document request

Thank you. Can you suggest a citation for the 2013 document?

Laura Johnson

Environmental Resources & GIS Specialist

McMillen Jacobs Associates

2825 Eastlake Ave East, Suite 375 | Seattle, WA 98102
206.512.1962 p | 206.295.2405 c | ljohnson@mcmjac.com

[Twitter](#) | [LinkedIn](#) | [Facebook](#) | [Google+](#) | [Instagram](#)

From: Charnon, Betty -FS [<mailto:bcharnon@fs.fed.us>]
Sent: Thursday, September 17, 2015 9:20 AM
To: Johnson, Laura <ljohnson@mcmjac.com>
Subject: RE: Grant Lake Biological Evaluation document request

I think the 2009 document is a different document. It includes wildlife as well as plants and was the analysis that went into determining the R10 sensitive species. This matrix is a summary of the plants portion.



Betty Charnon
Ecologist
Forest Service
Chugach National Forest,
Kenai Peninsula Zone

p: 907-754-2326
bcharnon@fs.fed.us

P.O. Box 129
Girdwood, AK 99587
www.fs.fed.us



**Caring for the land and serving
people**

From: Johnson, Laura [<mailto:ljohnson@mcmjac.com>]
Sent: Wednesday, September 16, 2015 2:26 PM
To: Charnon, Betty -FS
Subject: RE: Grant Lake Biological Evaluation document request

Hi Betty,

Thanks again for passing this along. Is the citation the same as for the 2009 document, except for the updated date (2013)? We have the 2009 document as:

Goldstein, M., D. Martin, and M.C. Stensvold. 2009. 2009 Forest Service Alaska Region Sensitive Species List Assessment and Proposed Revisions to the 2002 List. U.S. Forest Service, Tongass National Forest.

Thanks,

Laura Johnson
Environmental Resources & GIS Specialist

McMillen Jacobs Associates
2825 Eastlake Ave East, Suite 375 | Seattle, WA 98102
206.512.1962 p | 206.295.2405 c | ljohnson@mcmjac.com

[Twitter](#) | [LinkedIn](#) | [Facebook](#) | [Google+](#) | [Instagram](#)

From: Charnon, Betty -FS [<mailto:bcharnon@fs.fed.us>]
Sent: Tuesday, September 15, 2015 3:30 PM
To: Johnson, Laura <ljohnson@mcmjac.com>
Subject: RE: Grant Lake Biological Evaluation document request

I think this is what you are looking for.



Betty Charnon
Ecologist
Forest Service
Chugach National Forest,
Kenai Peninsula Zone

p: 907-754-2326
bcharnon@fs.fed.us

P.O. Box 129
Girdwood, AK 99587

www.fs.fed.us



**Caring for the land and serving
people**

From: Johnson, Laura [<mailto:ljohnson@mcmjac.com>]
Sent: Tuesday, September 15, 2015 2:26 PM
To: Charnon, Betty -FS
Subject: Grant Lake Biological Evaluation document request

Hi Betty,

I'm working on revisions to the Grant Lake Project Management Plans per your comments on the Biological Evaluation. In one of your comments, you refer to the 2013 Alaska Region Sensitive Plant Matrix. In searching around for that documentation online, I'm not able to dig it up. Would it be possible for you to send me a copy?

Thanks,

Laura Johnson

Environmental Resources & GIS Specialist

McMillen Jacobs Associates

2825 Eastlake Ave East, Suite 375 | Seattle, WA 98102
206.512.1962 p | 206.295.2405 c | ljohnson@mcmjac.com

[Twitter](#) | [LinkedIn](#) | [Facebook](#) | [Google+](#) | [Instagram](#)

Johnson, Laura

From: Warnock, Cory
Sent: Monday, September 21, 2015 8:51 AM
To: 'Monte Miller'
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: KHL Meeting

Hi Monte,

Just checking in to gauge your availability for a meeting (per my 9/9 email) for the week of October 5th. I've heard from the USFWS that they are available on the 7th for a meeting but obviously before I formalize anything, I wanted to hear from you. I got your voicemail last week and returned your call with a voice message of my own but haven't heard back. As you have time, if you could please give me a heads up as to your availability, I'd appreciate it. If you need more time or schedule conflicts exist, please let me know that as well so that we can begin to look out a little further and assess our options.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Monday, September 21, 2015 4:28 PM
To: 'Monte Miller'; 'Jeffry Anderson'; 'Susan Walker'; Betsy McCracken; sean.eagan@noaa.gov
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: RE: Grant Lake Meeting

Hi again,

I've been corresponding a bit with Sue today and she will be out the days in November that I propose but will be available the 19th and 20th of November. If you could please get back to me with your availability for those dates, I'd appreciate it. We'll get this figured out yet!!

Thanks

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory
Sent: Monday, September 21, 2015 11:26 AM
To: 'Monte Miller' <monte.miller@alaska.gov>; 'Jeffry Anderson' <Jeffry_Anderson@fws.gov>; 'Susan Walker' <susan.walker@noaa.gov>; Betsy McCracken <betsy_mccracken@fws.gov>; 'sean.eagan@noaa.gov' <sean.eagan@noaa.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: RE: Grant Lake Meeting

Hi all,

Per the email below and based upon some recent correspondence initiated by NMFS, I'd like to suggest we move the meeting back to November to facilitate a bit more lead time and ensure that everyone can be available. Please click on the link (<http://doodle.com/poll/ew8bnv34qwt45xw>) to go to a doodle poll with some options for potential dates. Once I hear from everyone, I'll circle back and finalize a date. Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory
Sent: Wednesday, September 09, 2015 2:20 PM

To: 'Monte Miller' <monte.miller@alaska.gov>; Jeffry Anderson <Jeffry_Anderson@fws.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: Grant Lake Meeting

Hello Monte and Jeff,

KHL has gotten to the point with their refinement of both the Grant Lake FLA and the associated Management Plans (MP's) where we would like to have a meeting with both of your agencies to go over some of the comments on both that we (and likely you) feel warrant additional collaboration and development. We are in the process of responding to all comments received and modifying our various documents accordingly. As such and given our current status, I'd like to propose a one day meeting sometime during the week of October 5th (Tues (6th), Wed (7th), or Thurs (8th) if possible). The meeting would be held in Anchorage and likely take a majority of the day. If you could check with the internal folks that you'd like to attend such a meeting and get back to me regarding availability, I'll start to get things set up. If by chance none of those days work, please suggest a few alternate days around that timeframe that do and we'll assess our availability internally.

On the same topic, it is noteworthy that many of ADF&G's comments associated with the FLA and the MP's were related to access to the draft Exhibit F and the associated infrastructural detail that exists there. As you are aware, due to the crazy world we live in these days, FERC requires that this type of detail (and a majority of Exhibit F) be designated as CEII when filed. That said, KHL obviously has no issue with your agencies reviewing Exhibit F and in fact, would prefer it. We feel strongly that it will alleviate many of your questions/recommendations cited in your response to the DLA and the MP's. As such, we are currently in the process of developing a quick note to sign confirming that anyone reviewing the exhibit will keep it confidential. You should see that by early next week and once we receive a signed copy, we quickly send you a copy of the draft Exhibit F.

Thanks to both of you. Look forward to hearing from you regarding the meeting and to seeing you in October.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Monday, September 21, 2015 4:27 PM
To: Susan Walker - NOAA Federal
Cc: Sean Eagan - NOAA Federal; Johnson, Laura
Subject: RE: Grant Lake

Thanks Sue. You'll see another email from me to the "group" checking in on the 19th or 20th for availability. Per my voicemail, give me a call tomorrow as you have time.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Susan Walker - NOAA Federal [mailto:susan.walker@noaa.gov]
Sent: Monday, September 21, 2015 4:12 PM
To: Warnock, Cory <Warnock@mcmjac.com>
Cc: Sean Eagan - NOAA Federal <sean.eagan@noaa.gov>
Subject: Re: Grant Lake

Cory - We are trying to juggle a couple meetings which would allow Sean Eagan, our new hydrologist, to attend both meetings in person. Here are some preferred dates for us:

- 1) Meet on Grant Lake Oct 5 or 6.
- 2) Nov 2 or 3.
- 3) Nov 19 or 20.

We plan to have one of us attend in person and the other on the phone and are trying to co-schedule a Bradley Lake meeting about fish flow valves. I realize you have a lot of people to consider and that we did not file comments, and I appreciate your efforts to include NMFS in this meeting -

Sue

On Mon, Sep 21, 2015 at 11:51 AM, Susan Walker - NOAA Federal <susan.walker@noaa.gov> wrote:
Only on the 20th of Nov.

On Mon, Sep 21, 2015 at 11:05 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:
Hi Sue,

Got your message and will call you later this afternoon. Are you available the week of Nov 18th?

On Sep 21, 2015, at 12:03 PM, "Susan Walker - NOAA Federal" <susan.walker@noaa.gov> wrote:

Cory - I am avail Oct 5, and will be in ANC, but I'm not avail the week of Nov 11. Will be in Hawaii, sorry!

On Mon, Sep 21, 2015 at 10:13 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi Sue,

Thanks for the email. Given your NMFS's desire to get involved at this point, I think it might be prudent for us to delay the meeting a bit to assure that everyone can attend. I've spoken with Mike and I'm going to send out a modified request for a potential date in early November to have a meeting in Anchorage. As you know, we are getting pretty close to the week of October 5th so to expect everyone to be available on the same day with this short of a timeframe would be a bit presumptuous on my part. So, look for that email shortly. In addition, if you think it would be valuable to chat so that we can get on the same page with respect to process going forward, I'd be more than happy to make the time. Just let me know.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

[360.384.2662](tel:360.384.2662) p | [360.739.0187](tel:360.739.0187) c | warnock@mcmjac.com

From: Susan Walker - NOAA Federal [mailto:susan.walker@noaa.gov]

Sent: Monday, September 21, 2015 10:39 AM

To: Warnock, Cory <Warnock@mcmjac.com>; Sean Eagan - NOAA Federal <sean.eagan@noaa.gov>

Subject: Grant Lake

Cory -

The email string regarding the upcoming meeting with ADFG, USFWS and KHL has been shared with NMFS. I know NMFS was excluded from this meeting as we did not provide review comments, draft license conditions or PM&E's. We did not do so because of workload and staffing. We are now fully staffed with the addition of a new hydrologist, Sean Eagan. We will be reviewing the FLA and EIS/EA and request being including in this upcoming meeting.

Please call me if you would like to discuss -

--

Sue Walker
NMFS Hydropower Coordinator
Alaska Region

P.O. Box 21668
709 W. 9th Street
Juneau, Alaska 99802-1668

[907-586-7646](tel:907-586-7646)
FAX: [907- 586-7358](tel:907-586-7358)

The line of life is a ragged diagonal between duty and desire.

--

Sue Walker
NMFS Hydropower Coordinator
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Juneau, Alaska 99802-1668

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FAX: 907- 586-7358

The line of life is a ragged diagonal between duty and desire.

Johnson, Laura

From: Warnock, Cory
Sent: Monday, September 21, 2015 8:57 AM
To: Anderson, Jeffry
Cc: Mike Salzetti; Johnson, Laura; Betsy McCracken
Subject: RE: Grant Lake Meeting

Hi Jeff,

Thanks for the response. We are waiting to hear back from ADF&G as to their availability. I've sent them another follow-up message to let them know that your preferred date was the 7th and hopefully they could accommodate that as well. I'll let you know as soon as I do. With respect to your NOAA inquiry, as I summarized below, the primary intent of the meeting will be to go over outstanding/substantive comments that your agency has made and discuss and/or potentially amend the details of our proposed PM&E's prior to our FLA filing. Given that we are in the process of revising our documents for this filing and the fact that NOAA did not take part in the review/comment period, we've chosen not to invite them to this supplemental meeting.

Happy to discuss further if you'd like and I'll keep you posted on finalizing a date as soon as I hear.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Anderson, Jeffry [mailto:jeffry_anderson@fws.gov]
Sent: Friday, September 18, 2015 10:23 AM
To: Warnock, Cory <Warnock@mcmjac.com>
Cc: Mike Salzetti <msalzetti@homerelectric.com>; Johnson, Laura <ljohnson@mcmjac.com>; Betsy McCracken <betsy_mccracken@fws.gov>
Subject: Re: Grant Lake Meeting

Hi Cory. Wednesday October 7th works best for the USFWS. Betsy McCracken from our Anchorage office will also be attending.

Have you invited NOAA to the meeting?

-- Jeff

Jeffry Anderson
Field Supervisor
USFWS, Kenai Fish & Wildlife Field Office
43655 Kalifornsky Beach Road, Soldotna, AK 99669
Office: 907-260-0132

Cell: 907-252-4896

On Wed, Sep 16, 2015 at 10:50 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Thanks for the response, Jeff. I'll look forward to hearing from you soon.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Anderson, Jeffry [mailto:jeffry_anderson@fws.gov]

Sent: Wednesday, September 16, 2015 9:18 AM

To: Warnock, Cory <Warnock@mcmjac.com>

Subject: Re: Grant Lake Meeting

Hi Cory. I'm still trying to coordinate with other USFWS staff in Anchorage. I should be able to respond by Friday afternoon.

-- Jeff

Jeffry Anderson

Field Supervisor

USFWS, Kenai Fish & Wildlife Field Office

43655 Kalifornsky Beach Road, Soldotna, AK 99669

Office: 907-260-0132

Cell: 907-252-4896

On Wed, Sep 9, 2015 at 1:20 PM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hello Monte and Jeff,

KHL has gotten to the point with their refinement of both the Grant Lake FLA and the associated Management Plans (MP's) where we would like to have a meeting with both of your agencies to go over some of the comments on both that we (and likely you) feel warrant additional collaboration and development. We are in the process of responding to all comments received and modifying our various documents accordingly. As such and given our current status, I'd like to propose a one day meeting sometime during the week of October 5th (Tues (6th), Wed (7th), or Thurs (8th) if possible). The meeting would be held in Anchorage and likely take a majority of the day. If you could check with the internal folks that you'd like to attend such a meeting and get back to me regarding availability, I'll start to get things set up. If by chance none of those days work, please suggest a few alternate days around that timeframe that do and we'll assess our availability internally.

On the same topic, it is noteworthy that many of ADF&G's comments associated with the FLA and the MP's were related to access to the draft Exhibit F and the associated infrastructural detail that exists there. As you are aware, due to the crazy world we live in these days, FERC requires that this type of detail (and a majority of Exhibit F) be designated as CEII when filed. That said, KHL obviously has no issue with your agencies reviewing Exhibit F and in fact, would prefer it. We feel strongly that it will alleviate many of your questions/recommendations cited in your response to the DLA and the MP's. As such, we are currently in the process of developing a quick note to sign confirming that anyone reviewing the exhibit will keep it confidential. You should see that by early next week and once we receive a signed copy, we quickly send you a copy of the draft Exhibit F.

Thanks to both of you. Look forward to hearing from you regarding the meeting and to seeing you in October.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Anderson, Jeffry <jeffry_anderson@fws.gov>
Sent: Monday, September 21, 2015 4:39 PM
To: Warnock, Cory
Cc: Monte Miller; Susan Walker; Betsy McCracken; sean.eagan@noaa.gov; Mike Salzetti; Johnson, Laura
Subject: Re: Grant Lake Meeting

I'm available on November 20th but not on the 19th.

-- Jeff

Jeffry Anderson
Field Supervisor
USFWS, Kenai Fish & Wildlife Field Office
43655 Kalifornsky Beach Road, Soldotna, AK 99669
Office: 907-260-0132
Cell: 907-252-4896

On Mon, Sep 21, 2015 at 3:27 PM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi again,

I've been corresponding a bit with Sue today and she will be out the days in November that I propose but will be available the 19th and 20th of November. If you could please get back to me with your availability for those dates, I'd appreciate it. We'll get this figured out yet!!

Thanks

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory
Sent: Monday, September 21, 2015 11:26 AM
To: 'Monte Miller' <monte.miller@alaska.gov>; 'Jeffry Anderson' <Jeffry_Anderson@fws.gov>; 'Susan Walker' <susan.walker@noaa.gov>; Betsy McCracken <betsy_mccracken@fws.gov>; 'sean.eagan@noaa.gov' <sean.eagan@noaa.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: RE: Grant Lake Meeting

Hi all,

Per the email below and based upon some recent correspondence initiated by NMFS, I'd like to suggest we move the meeting back to November to facilitate a bit more lead time and ensure that everyone can be available. Please click on the link (<http://doodle.com/poll/ew8bnv34qwt45xw>) to go to a doodle poll with some options for potential dates. Once I hear from everyone, I'll circle back and finalize a date. Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory
Sent: Wednesday, September 09, 2015 2:20 PM
To: 'Monte Miller' <monte.miller@alaska.gov>; Jeffry Anderson <Jeffry_Anderson@fws.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: Grant Lake Meeting

Hello Monte and Jeff,

KHL has gotten to the point with their refinement of both the Grant Lake FLA and the associated Management Plans (MP's) where we would like to have a meeting with both of your agencies to go over some of the comments on both that we (and likely you) feel warrant additional collaboration and development. We are in the process of responding to all comments received and modifying our various documents accordingly. As such and given our current status, I'd like to propose a one day meeting sometime during the week of October 5th (Tues (6th), Wed (7th), or Thurs (8th) if possible). The meeting would be held in Anchorage and likely take a majority of the day. If you could check with the internal folks that you'd like to attend such a meeting and get back to me regarding availability, I'll start to get things set up. If by chance none of those days work, please suggest a few alternate days around that timeframe that do and we'll assess our availability internally.

On the same topic, it is noteworthy that many of ADF&G's comments associated with the FLA and the MP's were related to access to the draft Exhibit F and the associated infrastructural detail that exists there. As you are aware, due to the crazy world we live in these days, FERC requires that this type of detail (and a majority of Exhibit F) be designated as CEII when filed. That said, KHL obviously has no issue with your agencies reviewing Exhibit F and in fact, would prefer it. We feel strongly that it will alleviate many of your questions/recommendations cited in your response to the DLA and the MP's. As such, we are currently in the process of developing a quick note to sign confirming that anyone reviewing the exhibit will keep it confidential. You should see that by early next week and once we receive a signed copy, we quickly send you a copy of the draft Exhibit F.

Thanks to both of you. Look forward to hearing from you regarding the meeting and to seeing you in October.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

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warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Tuesday, September 22, 2015 11:45 AM
To: Miller, Monte D (DFG)
Cc: 'Mike Salzetti'; Johnson, Laura; Klein, Joseph P (DFG)
Subject: RE: Grant Lake Exhibit F and Supporting Design Document Presentation

Appreciate the perspective Monte and all good. We were simply trying to address a specific comment that your agency had as efficiently as possible; certainly not collude in any way.

More details related to the upcoming meeting and revisions in the coming weeks and thanks for the consideration.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Miller, Monte D (DFG) [mailto:monte.miller@alaska.gov]
Sent: Tuesday, September 22, 2015 11:42 AM
To: Warnock, Cory <Warnock@mcmjac.com>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>; Klein, Joseph P (DFG) <joe.klein@alaska.gov>
Subject: RE: Grant Lake Exhibit F and Supporting Design Document Presentation

Cory,

While this sounds interesting, I would be reluctant to receive special treatment that is not offered to the other agencies. It may be more efficient but might be seen as working in collusion, rather than an informal meeting. Typically we do not like to see informational meetings with only one agency since it may be interpreted incorrectly. The other issue is that if separate meetings are held with different agencies or groups, there is no guarantee that the same information is shared. For efficiency sake, and to eliminate any cry of foul, we think that information should be shared equally at the same time with all. Probably not what you wanted to hear....but needed to be said.

Monte D. Miller
Statewide FERC Hydropower Coordinator
Alaska Department of Fish and Game
Division of Sport Fish / RTS
333 Raspberry Road
Anchorage, Alaska, 99518-1565

(907) 267-2312

From: Warnock, Cory [mailto:Warnock@mcmjac.com]
Sent: Tuesday, September 22, 2015 9:55 AM
To: Miller, Monte D (DFG)

Cc: 'Mike Salzetti'; Johnson, Laura

Subject: Grant Lake Exhibit F and Supporting Design Document Presentation

Hi Monte,

Per our call, I was just chatting with Mike a bit about the most efficient way to begin to get you some of the details you are looking for with respect to infrastructure and operations. With the understanding that you'll be receiving revised exhibits in the next month or so, Mike would also be very willing to come down in the interim (next couple weeks) to Anchorage and give you a presentation to show you the drawings from Exhibit F as well as thumb through the pertinent sections of the Supporting Design Document. In our mind, this would be a good interim step leading up to you receiving the revised exhibits and should provide some additional clarity. We obviously couldn't leave the documentation with you at that time but that's not to say that a very fundamental Q &A couldn't occur as part of Mike's presentation.

Please let me know if this would interest you as Mike is happy to do it. He's Cc'd here so we can begin to coordinate an appropriate date/time.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

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warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Friday, September 25, 2015 1:13 PM
To: 'Monte Miller'; 'Jeffrey Anderson'; 'Susan Walker'; Betsy McCracken; sean.eagan@noaa.gov
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: RE: Grant Lake Meeting

Hi all,

In light of some schedule conflicts and KHL's planning related to tasks associated with the Grant Lake License Application revision process over the next couple of months, we are going to suspend discussion of the meeting mentioned below for a few weeks. Once all schedules become clear (likely mid-October), I'll be reaching out to everyone again to gauge availability late this year for the meeting.

Just a heads-up and stay tuned.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

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360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory
Sent: Monday, September 21, 2015 4:28 PM
To: 'Monte Miller' <monte.miller@alaska.gov>; 'Jeffrey Anderson' <Jeffrey_Anderson@fws.gov>; 'Susan Walker' <susan.walker@noaa.gov>; 'Betsy McCracken' <betsy_mccracken@fws.gov>; 'sean.eagan@noaa.gov' <sean.eagan@noaa.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: RE: Grant Lake Meeting

Hi again,

I've been corresponding a bit with Sue today and she will be out the days in November that I propose but will be available the 19th and 20th of November. If you could please get back to me with your availability for those dates, I'd appreciate it. We'll get this figured out yet!!

Thanks

Cory Warnock

Senior Licensing and Regulatory Specialist

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360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory
Sent: Monday, September 21, 2015 11:26 AM
To: 'Monte Miller' <monte.miller@alaska.gov>; 'Jeffry Anderson' <Jeffry_Anderson@fws.gov>; 'Susan Walker' <susan.walker@noaa.gov>; Betsy McCracken <betsy_mccracken@fws.gov>; 'sean.eagan@noaa.gov' <sean.eagan@noaa.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: RE: Grant Lake Meeting

Hi all,

Per the email below and based upon some recent correspondence initiated by NMFS, I'd like to suggest we move the meeting back to November to facilitate a bit more lead time and ensure that everyone can be available. Please click on the link (<http://doodle.com/poll/ew8bnv34qwt45xw>) to go to a doodle poll with some options for potential dates. Once I hear from everyone, I'll circle back and finalize a date. Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

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From: Warnock, Cory
Sent: Wednesday, September 09, 2015 2:20 PM
To: 'Monte Miller' <monte.miller@alaska.gov>; Jeffry Anderson <Jeffry_Anderson@fws.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: Grant Lake Meeting

Hello Monte and Jeff,

KHL has gotten to the point with their refinement of both the Grant Lake FLA and the associated Management Plans (MP's) where we would like to have a meeting with both of your agencies to go over some of the comments on both that we (and likely you) feel warrant additional collaboration and development. We are in the process of responding to all comments received and modifying our various documents accordingly. As such and given our current status, I'd like to propose a one day meeting sometime during the week of October 5th (Tues (6th), Wed (7th), or Thurs (8th) if possible). The meeting would be held in Anchorage and likely take a majority of the day. If you could check with the internal folks that you'd like to attend such a meeting and get back to me regarding availability, I'll start to get things set up. If by chance none of those days work, please suggest a few alternate days around that timeframe that do and we'll assess our availability internally.

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Thanks to both of you. Look forward to hearing from you regarding the meeting and to seeing you in October.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Sean Eagan - NOAA Federal <sean.eagan@noaa.gov>
Date: September 25, 2015 at 2:07:43 PM PDT
To: "Warnock, Cory" <Warnock@mcmjac.com>
Subject: Re: Grant Lake Meeting

Cory,

Thanks for keeping me in the loop. Sean

On Fri, Sep 25, 2015 at 12:12 PM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi all,

In light of some schedule conflicts and KHL's planning related to tasks associated with the Grant Lake License Application revision process over the next couple of months, we are going to suspend discussion of the meeting mentioned below for a few weeks. Once all schedules become clear (likely mid-October), I'll be reaching out to everyone again to gauge availability late this year for the meeting.

Just a heads-up and stay tuned.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

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Johnson, Laura

From: Warnock, Cory
Sent: Tuesday, September 29, 2015 9:39 AM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: RE: CEII Question (Grant Lake Project P-13212)

Thanks for the clarification Ken. I was using some of the text related to FERC guidance for application drawing development and CEII designation. It's good to know that there is a bit more flexibility than the specific document implies when it says, "*Exhibit F drawings must be segregated from other project information and identified as (CEII) material under 18 CFR §388.112 and §388.113(c).*" However, as I dig a bit deeper, I see that I took it a bit out of context and it is indeed up to the discretion of the project proponent. In an effort to add a bit of clarity to some of the comments received, I think we'll be filing the Supporting Design Document as public in the next couple of days.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Monday, September 28, 2015 6:04 AM
To: Warnock, Cory <Warnock@mcmjac.com>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: Re: CEII Question (Grant Lake Project P-13212)

Hi Cory,

The designation of a document as CEII is entirely up to the applicant/licensee. An applicant or Licensee may release CEII information to anyone it desires. The CEII regulations dictate how the Commission will treat the information once it has been filed with us. In other words, if a document is filed as CEII I cannot simply release it to a requestor without that requestor going through the proper process. The applicant/Licensee may, however, release the document to the requestor at its discretion. So I see no issues with the approach you are describing.

Ken

From: Warnock, Cory <Warnock@mcmjac.com>
Sent: Friday, September 25, 2015 4:06 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: CEII Question (Grant Lake Project P-13212)

Hi Ken,

As you are aware, we are in the process of revising our License Application and related Management Plans per comments FERC and others have filed. One global comment made by your agency (and others) was a desire for additional information currently located in Exhibit F (drawings and Supporting Design Report) to be incorporated into the appropriate exhibits so that additional clarity related to infrastructure and operations can be easily accessed. While I'm quite clear on the regs related to the requirement for the drawings contained in Exhibit F to be designated CEII, I'm wondering if FERC would have an issue with us releasing the Supporting Design Document in a public fashion. In doing so, we feel that many of the infrastructural and operational questions related to additional detail would be satisfactorily answered in a fashion well in advance of filing the FLA and associated comment response matrix. Obviously, I don't want to be presumptuous and/or violate an existing regulation pertaining to Exhibit F so I wanted to check with you. Upon our KHL's review, I believe that they would be fine with this approach but confirmation from you in this regard would be appreciated before we actually go ahead with any sort of public release of that document.

Thanks Ken and as always, if you'd like to discuss further, let me know.

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Monday, October 05, 2015 12:17 PM
To: Susan Walker - NOAA Federal; Sean Eagan - NOAA Federal
Cc: Johnson, Laura
Subject: RE: Grant Lake Project Support Design Report

Will do.

Is he in your office or should we send a 4th cd to him as well?

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Susan Walker - NOAA Federal [mailto:susan.walker@noaa.gov]
Sent: Monday, October 05, 2015 12:16 PM
To: Warnock, Cory <Warnock@mcmjac.com>; Sean Eagan - NOAA Federal <sean.eagan@noaa.gov>
Subject: Re: Grant Lake Project Support Design Report

Thanks Cory - we do have an ftp site we can access, but the CD will be fine. Please add SEan Eagan, NMFS new hydrologist, to you email list. Thanks!

Sue

On Mon, Oct 5, 2015 at 11:14 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

FYI - CD's going in the mail to all of you today.

Thanks.

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
[360.384.2662](tel:360.384.2662) p | [360.739.0187](tel:360.739.0187) c | warnock@mcmjac.com <mailto:warnock@mcmjac.com>

From: Warnock, Cory
Sent: Monday, October 05, 2015 10:50 AM
To: 'Monte Miller' <monte.miller@alaska.gov>; Jeffry Anderson <Jeffry_Anderson@fws.gov>; 'Susan Walker' <susan.walker@noaa.gov>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>
Subject: FW: Grant Lake Project Support Design Report

Hi all,

Please see email below for details. Per my concern below, it appears that the file I'm trying to send you all is too large for your respective inboxes. If you could please shoot me a message back and let me know the best/most efficient way to get you the document, I'll get it done.

Thanks!

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
[360.384.2662](tel:360.384.2662) p | [360.739.0187](tel:360.739.0187) c | warnock@mcmjac.com <mailto:warnock@mcmjac.com>

From: Warnock, Cory
Sent: Monday, October 05, 2015 9:55 AM
To: 'Monte Miller' <monte.miller@alaska.gov>>; Jeffry Anderson <Jeffry_Anderson@fws.gov>>; 'Susan Walker' <susan.walker@noaa.gov>>
Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>>; Johnson, Laura <ljohnson@mcmjac.com>>
Subject: Grant Lake Project Support Design Report

Hi Monte, Jeff and Sue,

In advance of the meeting we'll be planning in the coming weeks and per conversations that I've had with FERC and KHL, I'm attaching the CEII version of the Grant Lake Project Supporting Design Report. Based on the comments received from ADF&G and USFWS related to infrastructural detail and operations, KHL feels that this document along with its appendices will answer many of the outstanding questions that were posed. With the exception of the preliminary facility design drawings (which remain CEII), this document is complete and extremely descriptive with respect to proposed infrastructure and operations. KHL is providing this document now in hopes that review can occur in advance of our pending meeting and further discussion related to outstanding issues can be conducted more effectively as a result.

As always, I'm happy to discuss any questions you may have. Note: the file size is rather large (26MB) so, if this gets kicked back, I'll give you a call to attempt to get it to you another way.

Thanks!

Cory Warnock
Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates <<http://www.mcmjac.com/>>
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warnock@mcmjac.com <mailto:warnock@mcmjac.com>

--

Sue Walker
NMFS Hydropower Coordinator
Alaska Region

P.O. Box 21668
709 W. 9th Street
Juneau, Alaska 99802-1668

907-586-7646
FAX: 907- 586-7358

The line of life is a ragged diagonal between duty and desire.

Johnson, Laura

From: Crane, Drew <drew_crane@fws.gov>
Sent: Monday, October 05, 2015 11:16 AM
To: Warnock, Cory
Cc: Anderson, Jeffry; Johnson, Laura; Jennifer Spegon
Subject: Re: Grant Lake Project Listing Status

Hi Cory,

For questions regarding species occurrences in project areas, we typically refer folks to the Service's IPaC website (<https://ecos.fws.gov/ipac/>). You can enter in your project information and it will generate a species list for you as well as direct you to the correct field office for follow-up discussions.

I spoke with Jennifer Spegon this morning, as she is the acting Branch Chief for Ecological Services in our Anchorage Field Office. For the KHL Grant Lake Project, you are correct, there are no species or critical habitat within the project area. Jennifer will likely be your best point of contact for this project if you have additional questions or information needs.

Thanks,

Drew Crane
Regional Endangered Species Coordinator
U.S. Fish and Wildlife Service
1011 E. Tudor Road
Anchorage, AK 99503
907-786-3323

On Mon, Oct 5, 2015 at 8:38 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Thanks Jeff and hi Drew,

As you can see from the email below, we are in the process of revising a license application for KHL's Grant Lake Project. As part of that process, I'm checking in to verify that we are as current as possible with respect to federally threatened and/or endangered species along with critical habitat in the Project area. Currently there are no documented species or habitat (per scoping approximately 5 years ago). Would it be possible for you two to confirm this is still the case for your respective agencies or if this is no longer the case, any detail you could provide related to new designations would be equally appreciated so that we can accurately depict the current condition in the FLA. If a quick chat would help provide additional specificity, I'd be happy to do it.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Anderson, Jeffry [mailto:jeffry_anderson@fws.gov]

Sent: Monday, October 05, 2015 9:32 AM

To: Warnock, Cory <Warnock@mcmjac.com>; Drew Crane <drew_crane@fws.gov>

Subject: Re: Grant Lake Project Listing Status

Hi Cory. The primary contact for endangered species in this geographic area is the Anchorage Fish and Wildlife Field Office. However, they are in the process of replacing their Branch Chief, so I'll give you the contact info for our Endangered Species Coordinator in our Regional Office. His name is Drew Crane (907-786-3323) and I've cc'd him on this e-mail.

-- Jeff

Jeffry Anderson

Field Supervisor

USFWS, Kenai Fish & Wildlife Field Office

43655 Kalifornsky Beach Road, Soldotna, AK 99669

Office: 907-260-0132

Cell: 907-252-4896

On Tue, Sep 29, 2015 at 12:09 PM, Warnock, Cory <Warnock@mcmjac.com> wrote:

| Hi Jeff and Sue,

As you both are aware, we are in the process of responding to comments and revising the KHL License Application for the Grant Lake Project. As part of that process I wanted to reach out to both of you and confirm what is currently stated in the document with respect to federally threatened and/or endangered species along with critical habitat. Currently there are no documented species or habitat (per scoping approximately 5 years ago). Would it be possible for you two to confirm this is still the case for your respective agencies or put me in touch with an appropriate contact? Conversely, if this is no longer the case, detail related to new designations would be equally appreciated so that we can accurately depict the current condition in the FLA.

Thanks in advance for the help and let me know if you have any questions,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Monday, October 05, 2015 11:25 AM
To: Anderson, Jeffry
Cc: Johnson, Laura
Subject: RE: FW: Grant Lake Project Support Design Report

All good options, Jeff. Just wanted to make sure we got it to you in your preferred fashion.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Anderson, Jeffry [mailto:jeffry_anderson@fws.gov]
Sent: Monday, October 05, 2015 11:21 AM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: Re: FW: Grant Lake Project Support Design Report

Upload to the Kenai Hydro document library? Create a Google drive if you don't want everyone to see it? Mail a CD?

Jeffry Anderson
Field Supervisor
USFWS, Kenai Fish & Wildlife Field Office
43655 Kalifornsky Beach Road, Soldotna, AK 99669
Office: 907-260-0132
Cell: 907-252-4896

On Mon, Oct 5, 2015 at 9:49 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi all,

Please see email below for details. Per my concern below, it appears that the file I'm trying to send you all is too large for your respective inboxes. If you could please shoot me a message back and let me know the best/most efficient way to get you the document, I'll get it done.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory

Sent: Monday, October 05, 2015 9:55 AM

To: 'Monte Miller' <monte.miller@alaska.gov>; Jeffry Anderson <Jeffry_Anderson@fws.gov>; 'Susan Walker' <susan.walker@noaa.gov>

Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>

Subject: Grant Lake Project Support Design Report

Hi Monte, Jeff and Sue,

In advance of the meeting we'll be planning in the coming weeks and per conversations that I've had with FERC and KHL, I'm attaching the CEII version of the Grant Lake Project Supporting Design Report. Based on the comments received from ADF&G and USFWS related to infrastructural detail and operations, KHL feels that this document along with its appendices will answer many of the outstanding questions that were posed. With the exception of the preliminary facility design drawings (which remain CEII), this document is complete and extremely descriptive with respect to proposed infrastructure and operations. KHL is providing this document now in hopes that review can occur in advance of our pending meeting and further discussion related to outstanding issues can be conducted more effectively as a result.

As always, I'm happy to discuss any questions you may have. Note: the file size is rather large (26MB) so, if this gets kicked back, I'll give you a call to attempt to get it to you another way.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Wednesday, October 07, 2015 3:29 PM
To: 'Ken Hogan'
Cc: Johnson, Laura
Subject: kenai Hydro, LLC's Grant Lake Project (P-13212) Response to KRWF Request
Attachments: Grant Lake Project (P-13212) Response to KRWF.pdf

Hi ken,

You may have already seen this but here is the letter that was filed on behalf of KHL related to the Kenai River Watershed Foundation request.

Happy to discuss if you'd like.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Eavis, John -FS [<mailto:jeavis@fs.fed.us>]
Sent: Wednesday, October 07, 2015 9:03 AM
To: Dwayne Adams
Cc: Kuntzsch, Deyna -FS; Stovall, Robert -FS
Subject: FW: Summer Use- Grant Lake area

Dwayne,

National Forest lands in the vicinity of Grant Lake are closed to motorized travel unless specifically authorized May 1 to November 31. An example of authorized motorized use during this period is the current federal mining claim holder through his Plan of Operations. The claimant is authorized to travel the Grant Lake Trail for mining purposes utilizing an ATV. Motorized use for recreational purposes is prohibited, there are no "designated routes" in this area.

When sufficient snow cover is present to prevent resource damage December 1 to April 30, over snow motorized travel is allowed by all users.

These are three trails in the area:

Iditarod National Historic Trail, the Forest Service holds an easement from the State of Alaska for this trail. It is managed for non-motorized use.

The Grant Lake Trail, the Forest Service holds an easement from the State of Alaska for this trail where it crosses State land. It is managed for non-motorized use.

The Grant Lake Portage Trail, listed as an Iditarod National Historic Trail access trail and managed for non-motorized use during the summer and motorized use during the winter. The Forest Service does not currently hold and easement for this trail.

Let me know if you have other questions.



John Eavis
Recreation Staff
Forest Service
Chugach National Forest, Seward Ranger District

p: 907-288-7701

f: 907-288-2002

jeavis@fs.fed.us

PO Box 390

Seward, AK 99664

www.fs.fed.us



Caring for the land and serving people

From: Stovall, Robert -FS
Sent: Friday, October 02, 2015 9:52 AM
To: Kuntzsch, Deyna -FS
Cc: Eavis, John -FS
Subject: FW: Summer Use- Grant Lake area

Deyna:

I do not know why Dwayne would have contacted you on a recreational issue. He has been working with John Eavis with relation to the Iditarod Trail and the Grant Lake Hydro project as well as any of the Rec issues with this project. I am forwarding this email to John. You should not nor need not to get involved. The only possible tie in with you is as the lead for the Planning team and therefore the FPR and maps he may have been looking at or using for his portion of this project.

Also it looks like Dwayne does not have my proper FS email address.

John is out of the office until next Wednesday so if you want to refer him to me please do.

If you get any other inquiries from Dwayne please refer him to Kelly, John Eavis, Kathy VM, or myself.

Your involvement in this project would come from Angela C and concerns she may have with the viability of this project. Or from concerns the state may have with the Salmon Fishery in Grant Creek (includes Red and King salmon runs and pawning).

Please let me know if you get any other inquires.

Robert



Robert Stovall
Deputy District Ranger
Forest Service
Chugach National Forest, Seward Ranger District

w: 907-743-9474, or 907-288-7707

c: 907-399-3966

rstovall@fs.fed.us

334 Fourth Street, PO Box 390

Seward, AK 99664

www.fs.fed.us



Caring for the land and serving people

From: Kuntzsch, Deyna -FS
Sent: Thursday, October 01, 2015 11:30 AM

To: Stovall, Robert -FS
Subject: FW: Summer Use- Grant Lake area

Robert,

I am following up on this, but do you know why this person is contacting me for this information?



Deyna Kuntzsch
Resources & Planning Staff Officer and National Dive Safety Officer

Forest Service
Chugach National Forest

p: 907-743-9517

f: 907-743-9476

dkuntzsch@fs.fed.us

161 E 1st Avenue, Door 8

Anchorage, AK 99501

www.fs.fed.us



Caring for the land and serving people

From: Dwayne Adams [<mailto:wdadams@earthscapealaska.com>]

Sent: Tuesday, September 29, 2015 1:21 PM

To: Kuntzsch, Deyna -FS

Cc: rstovall@yahoo.com; Cory Warnock ; Johnson, Laura

Subject: Summer Use- Grant Lake area

Deyna

I am working for Kenai Hydro on the possible licensing of a hydro project near Grant Lake. We have been coordinating with Robert Stovall as part of the licensing effort.

I am currently resolving comments related to the draft licensing application and have a question specific to motorized use of trails/corridors near Grant Lake. Per the attached map, the Ptarmigan/Grant Lake area is "Open to Motorized Use on Designated Routes Only." Are there designated routes that would be open to summer OHV use in the Grant Lake area? I know that the Grant Lake Trail that provides access to an old mine experiences OHV use but do not know whether it meets the "designated route" criteria.

Could you help me out?

Dwayne Adams
Landscape Architect



1343 G Street, Suite 101
Anchorage, AK 99501

P 907.279.2688

From: Dwayne Adams
To: ["Eavis, John -FS"](#)
Subject: RE: Summer Use- Grant Lake area
Date: Thursday, October 08, 2015 1:02:41 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Thanks John. The Municipality of Anchorage is struggling with how to address this new technology. It will be interesting to see how it plays out over the years.

Again, thanks

Dwayne Adams
Landscape Architect



1343 G Street, Suite 101
Anchorage, AK 99501

P 907.279.2688

From: Eavis, John -FS [<mailto:jeavis@fs.fed.us>]
Sent: Thursday, October 08, 2015 1:01 PM
To: Dwayne Adams
Subject: RE: Summer Use- Grant Lake area

It is my understanding the USFS considers them motorized.

From: Dwayne Adams [<mailto:wdadams@earthscapealaska.com>]
Sent: Thursday, October 08, 2015 12:46 PM
To: Eavis, John -FS
Cc: Stovall, Robert -FS
Subject: RE: Summer Use- Grant Lake area

John,

Sorry to bother you again, but what is the USFS policy with respect to "pedal-assist bikes?" As you probably know, these would be bikes where the user must pedal but can elect to have a battery-assist to enable easier climbing and faster travel. They seem to be an increasingly growing market and the fat tire pedal-assist segment is growing in popularity. Does the USFS consider them "motorized?"

Thanks much

Dwayne Adams
Landscape Architect



1343 G Street, Suite 101
Anchorage, AK 99501

P 907.279.2688

From: Eavis, John -FS [<mailto:jeavis@fs.fed.us>]
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To: Dwayne Adams
Cc: Kuntzsch, Deyna -FS; Stovall, Robert -FS
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John Eavis
Recreation Staff
Forest Service
Chugach National Forest, Seward Ranger District

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f: 907-288-2002

jeavis@fs.fed.us

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Seward, AK 99664

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Caring for the land and serving people

From: Stovall, Robert -FS
Sent: Friday, October 02, 2015 9:52 AM
To: Kuntzsch, Deyna -FS
Cc: Eavis, John -FS
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Please let me know if you get any other inquiries.

Robert



Robert Stovall
Deputy District Ranger
Forest Service
Chugach National Forest, Seward Ranger District

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Caring for the land and serving people

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Sent: Thursday, October 01, 2015 11:30 AM
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Robert,

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Deyna Kuntzsch
Resources & Planning Staff Officer and National Dive Safety Officer

Forest Service
Chugach National Forest

p: 907-743-9517

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Caring for the land and serving people

From: Dwayne Adams [<mailto:wdadams@earthscapealaska.com>]
Sent: Tuesday, September 29, 2015 1:21 PM
To: Kuntzsch, Deyna -FS
Cc: rstovall@yahoo.com; Cory Warnock ; Johnson, Laura
Subject: Summer Use- Grant Lake area

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Could you help me out?

Dwayne Adams
Landscape Architect



1343 G Street, Suite 101
Anchorage, AK 99501

P 907.279.2688

Grant Lake Hydroelectric Project (FERC No. 13212)

Grant Lake Project Update and FERC DLA Comment Meeting

October 21, 2015, 10:30am

Room 62-26

Proposed Draft Meeting Agenda

1. Brief HEA Overview (Brad Janorschke)
2. Grant Lake Location & Geography Slideshow (Mike Salzetti)
3. Brief Project Overview & Update (Mike Salzetti)
4. FERC Comments (Cory Warnock)
 - a. Itemized Discussion
5. NMFS Issue (Cory Warnock)
6. Potential Transfer of membership of KHL (Brad Janorschke)
7. Solicit FERC's advice on our FLA

Johnson, Laura

From: Warnock, Cory
Sent: Tuesday, October 13, 2015 8:21 AM
To: Kenneth Hogan; Frank Winchell; Alan Mitchnick; Nicholas Tackett; Adam Beeco; James Fargo
Cc: Mike Salzetti; Timothy Konnert; Johnson, Laura
Subject: RE: Grant Lake Meeting Next Week (P-13212)

Thanks Ken.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Tuesday, October 13, 2015 6:43 AM
To: Frank Winchell <Frank.Winchell@ferc.gov>; Alan Mitchnick <Alan.Mitchnick@ferc.gov>; Nicholas Tackett <Nicholas.Tackett@ferc.gov>; Adam Beeco <Adam.Beeco@ferc.gov>; James Fargo <James.Fargo@ferc.gov>
Cc: Warnock, Cory <Warnock@mcmjac.com>; Mike Salzetti <msalzetti@HomerElectric.com>; Timothy Konnert <Timothy.Konnert@ferc.gov>
Subject: FW: Grant Lake Meeting Next Week (P-13212)

Team,

As you can see from the email below, Kenai Hydro has requested that the length of the meeting be extended to support the draft agenda. As such, I have extended the meeting until 2:30.

We will break for lunch; Cory no need for Kenai to provide lunch services.

Cory – We will have a projector and screen available in the conference room(s).

If you are unable to make it for the extended period, please let us know at the onset of the meeting.

Thanks.

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](http://www.ferc.gov) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Monday, October 12, 2015 4:29 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: Grant Lake Meeting Next Week (P-13212)

Hi Ken,

In advance of our meeting next Wednesday (21st) at 10:30, I wanted to get you a KHL developed and proposed draft agenda for your review and any input you may have. Primary objectives from a KHL perspective are to provide everyone present with a brief overview of the Project and get everyone up to speed on Project development. Then, we'd like to spend a bulk of the time we have going over FERC's comments to our DLA and related management plans (MP's) (in an itemized fashion) and discuss how we've dealt with them in an effort to seek your input prior to finalizing documents. KHL's goal for this meeting is truly to make it as collaborative and interactive as possible in an effort to finalize development of the most comprehensive FLA possible. To that end and with the understanding that the calendar invitation you sent out a while back indicated that an hour and a half had been set aside, we are hoping to have as much of your team's time as possible and if more than an hour and a half is available (maybe up to 3 depending on the amount of conversation), it would be appreciated. KHL would be more than happy to set up some sort of lunch service if working through the lunch hour was a possibility.

I also wanted to verify the availability of a projector and screen in the room we'll be meeting in as we plan on bringing a short presentation and displaying a matrix that incorporates FERC's comments on the DLA and MP's with KHL's proposed responses. In addition to these electronic files, if FERC would find it valuable to have paper copies of these documents for review and note taking purposes, please let me know as we'd be happy to bring them along as well.

Mike and I had the opportunity to meet with Chairman Bay at the NHA regional meeting in Anchorage in August. We informed him that we were in the process of planning this meeting with FERC and he enthusiastically endorsed it and advocated for the approach. We are looking forward to the meeting and soliciting any suggestions you and your team may have in advance of our FLA submittal.

Thanks Ken. If you could let me know if you have any additions/revisions to the attached agenda and any thoughts you have with respect to the other items mentioned above, I'd appreciate it.

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Salzetti, Mikel [<mailto:MSalzetti@HomerElectric.com>]
Sent: Monday, October 19, 2015 12:50 PM
To: Meybin, Jessica E (DNR) <jessica.meybin@alaska.gov>
Cc: Neuendorf, Cody <CNeuendorf@HomerElectric.com>; Warnock, Cory <Warnock@mcmjac.com>
Subject: RE: Expiration Notice for LAS 29076 -

Jessica:

Please let this serve as a formal request to extend Permit #LAS 29076 for the term of an additional calendar year for the proposed Grant Lake Hydroelectric Project. We are in the process of completing our federal Final License Application and for the purposes of completeness, we'd like the ability to allow the thermistors to collect data for an additional year during this process. I'll be following this request up with a call to the number provided to pay the \$100 filing fee. If you have any questions or need additional detail to process the extension, please don't hesitate to contact me directly.

Thank you.

Mike Salzetti

Manager of Fuel Supply & Renewable Energy Development
Homer Electric Association
(907) 283-2375 *work*
(907) 398-5073 *Mobile*

From: Meybin, Jessica E (DNR) [<mailto:jessica.meybin@alaska.gov>]
Sent: Friday, October 16, 2015 9:06 AM
To: Neuendorf, Cody; Salzetti, Mikel
Subject: RE: Expiration Notice for LAS 29076 -

Thanks Cody, sounds good. The payment can be made to the Public Information Center at (907-269-8400 after 10am, be sure to give them the LAS number), and the statement can be in the form of an email to me.

Thanks again,

Jess

From: Neuendorf, Cody [<mailto:CNeuendorf@HomerElectric.com>]
Sent: Friday, October 16, 2015 9:03 AM
To: Meybin, Jessica E (DNR)
Cc: Salzetti, Mikel
Subject: RE: Expiration Notice for LAS 29076 -

Hi Jessica,

I apologize for not getting back to you sooner. This LAS will need to be extended.

Mike Salzetti (copied here) can provide the written statement requesting the extension and arrange for payment of the \$100 filing fee.

Thanks,

Cody Neuendorf, RWA
Land Management Officer
Homer Electric Association, Inc.
280 Airport Way
Kenai, AK 99611
907.335.6209 - Office
907.398.6170 - Mobile
cneuendorf@homerelectric.com

From: Meybin, Jessica E (DNR) [<mailto:jessica.meybin@alaska.gov>]
Sent: Friday, October 16, 2015 8:50 AM
To: Neuendorf, Cody
Subject: RE: Expiration Notice for LAS 29076 -

Hey Cody,

I have not heard from Bruce and I am wondering if you would like to close the Permit LAS 29076, since it expires at the end of the month. If you would like to extend, that would be an amendment to the permit and would require a written request and filing fee (\$100). If you would like to close, I will need a written statement (email is fine) and any photos possible for the closing report, and I can release the bond and close the file.

Thank You,

Jess

Jess Meybin
Natural Resource Specialist
Alaska Department of Natural Resources
Division of Mining, Land & Water
Jessica.meybin@alaska.gov
(907) 269-8569

From: Neuendorf, Cody [<mailto:CNeuendorf@HomerElectric.com>]
Sent: Friday, July 10, 2015 10:49 AM
To: Linton, Bruce
Cc: Meybin, Jessica E (DNR)
Subject: Expiration Notice for LAS 29076 -

Bruce,

I received the attached notice in the mail yesterday and wanted to run this by you before taking any action.

I believe we can let this expire as it was only required while the easement application (ADL 231108) was pending. Since ADL 231108 has been issued I assume we can let the Land Use Permit expire?

Here are the case files for [LAS 29076](#) & [ADL 231108](#)

Is the Thermistor different from the effluent discharge pipe and diffuser assemblage?

If this does need to be renewed please provide either a written statement indicating no change in development of operations as well as a \$100 filing fee for a 1 year extension or a renewal to modify the approved development plan. [Here](#) is Jess Meybin's email should you have questions or need more clarification.

Please let me know if there is anything I can assist with.

Thanks,

Cody Neuendorf, RWA
Land Management Officer
Homer Electric Association, Inc.
280 Airport Way
Kenai, AK 99611
907.335.6209 - Office
907.398.6170 - Mobile
cneuendorf@homerelectric.com

Johnson, Laura

From: Warnock, Cory
Sent: Monday, October 26, 2015 8:02 AM
To: 'Monte Miller'
Cc: Johnson, Laura
Subject: Preliminary Design Report (Grant Lake Project)

Hi Monte,

I was on travel all week last week so I just received your message regarding the “CEII” notation on the cover of the cd that we sent you. My apologies. As I understand it, the name of the file was simply transferred to the cover of the cd for clear identification; nothing further was intended to be conveyed by that title. That said, I appreciate your situation and we have expedited another copy (without the word “CEII” in the title) to your office. You will receive it shortly. I understand that you had a good call with John so I presume that this issue didn’t inhibit your ability to discuss freely the questions he had. As always, let me know if you have any questions/concerns and I’ll be in touch shortly with additional information related to a meeting for the Project.

Thanks.

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Grant Lake Hydroelectric Project (FERC No. 13212) Licensing

Consultation Record

Phone/E-mail/One-on-One Meeting Log

Contact Name: Monte Miller, Joe Klein

Agency/Organization: Alaska Department of Fish and Game

Phone No./E-mail Address: monte.miller@alaska.gov; joe.klein@alaska.gov/907-267-2312
907-267-2148

Date: October 20, 2015

Time: 10:20 PST

Grant Lake Licensing Team Contact:

John Blum

Summary of Conversation and/or E-mail Exchange:

Joe, Monte and John reviewed ADFG's comments re: the instream flow component for Grant Creek in the Draft License Amendment (DLA).

Flow Extrapolation: Joe and Monte discussed the comment that upward flow extrapolations from the highest calibration flow in the Instream Flow study are less accurate than downward modeling efforts, and that the upper limit of extrapolation was less than the 1,000 cfs that KHL modeled (more in the 500 – 600 cfs range). John suggested that, since KHL had a stage/discharge relationship based on a measured stage at 700 cfs, that the model extrapolation extend to 700 cfs. After discussing various methods to limit the model, Joe suggested that the text be caveated to state that results above 700 cfs be used with caution.

Weighted Usable Area (WUA) Modeling Results by Transect: Joe and Monte discussed that they would like to see the WUA results broken down by reach (main channel and side channels), since spawning was likely concentrated on the mainstem, while juvenile rearing was probably greatest in the side channels. John mentioned that WUA for each species and life stage for each transect could be found in Appendix E of the Instream Flow Report. Joe and Monte requested that WUA be summarized by reach and by mainstem and side channels. John said that WUA graphs for each reach had already been compiled, and that John could put those together. Monte and Joe asked that they be incorporated into the FLA rather than in the Instream Flow Report.

Habitat Suitability Criteria (HSC) Curves: requested more description of how the HSC curves were developed. John said he would revise text in the FLA to address this concern.

Mesohabitat Specific Analysis: Joe and Monte had requested that WUA be generated for each transect per life history stage. John mentioned that those graphs were available in Appendix E of the Instream Flow Report.

Combined Suitabilities: After discussion, Joe determined that the graphs developed for the Flow Extrapolation (above) would suffice, ~~and he would send an email to FERC reflecting that revision. (Joe, did I get that right??)~~. No further action was required.

Habitat Duration Curves: Joe and Monte asked that the flows being proposed during particular life history stages be superimposed upon flow duration curves for that time period, in 5% intervals. John asked if they wanted the flow duration to reflect the without-Project or the with-Project flow scenarios, and Joe said that both would be helpful.

Commented [JK1]: I would think including this meeting summary in the consultation section of the FLA would suffice.

Johnson, Laura

From: Warnock, Cory
Sent: Monday, October 26, 2015 4:18 PM
To: Susan Walker - NOAA Federal
Cc: Johnson, Laura
Subject: RE: Grant Lake Project Listing Status

Thanks Sue, appreciate the feedback.

As I mentioned in a previous email, I'll be in touch soon with respect to setting up a meeting for the Grant Lake Project.

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Susan Walker - NOAA Federal [mailto:susan.walker@noaa.gov]
Sent: Monday, October 26, 2015 4:17 PM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: Re: Grant Lake Project Listing Status

Hi Cory -

I concur that there are no species under NMFS jurisdiction that are listed as threatened or endangered under the ESA, or critical habitat for any species which are in the vicinity of the Grant Lake project.

Sue Walker

On Tue, Sep 29, 2015 at 12:09 PM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi Jeff and Sue,

As you both are aware, we are in the process of responding to comments and revising the KHL License Application for the Grant Lake Project. As part of that process I wanted to reach out to both of you and confirm what is currently stated in the document with respect to federally threatened and/or endangered species along with critical habitat. Currently there are no documented species or habitat (per scoping approximately 5 years ago). Would it be possible for you two to confirm this is still the case for your respective agencies or put me in touch with an appropriate contact? Conversely, if this is no longer the case, detail related to new designations would be equally appreciated so that we can accurately depict the current condition in the FLA.

Thanks in advance for the help and let me know if you have any questions,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates<<http://www.mcmjac.com/>>
5771 Applegrove Ln | Ferndale, WA 98248
[360.384.2662](tel:360.384.2662) p | [360.739.0187](tel:360.739.0187) c
warnock@mcmjac.com<<mailto:warnock@mcmjac.com>>

--

Sue Walker
NMFS Hydropower Coordinator
Alaska Region

P.O. Box 21668
709 W. 9th Street
Juneau, Alaska 99802-1668

907-586-7646
FAX: 907- 586-7358

The line of life is a ragged diagonal between duty and desire.

Johnson, Laura

From: Warnock, Cory
Sent: Tuesday, November 10, 2015 10:46 AM
To: 'Monte Miller'; Jeffry Anderson; 'Susan Walker'; Sean Eagan - NOAA Federal; 'pamela.russell@alaska.gov'; 'Patricia Berkhahn (patricia.berkhahn@alaska.gov)'; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Joe Klein'; Schade, David W (DNR); Daniel J. Hertrich; 'rstovall@fs.fed.us'; 'Ken Hogan'; 'kenailake@arctic.net'; 'mcooney@arctic.net'
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: Grant Lake Project Aquatic Resource Work Group Meeting

Grant Lake Hydroelectric Project (FERC No. 13212) Aquatic Resource Work Group Members (NRWG):

Hello Grant Lake Project ARWG Members,

We'd like to thank you all for your comments on the Grant Lake Project DLA and associated management plans. As a result of your review, KHL is currently finalizing their revision process and believes the resulting documents comprehensively describe Project development, infrastructure, operations, associated resource impacts (positive and negative), and proposed PM&E's. There are some outstanding aquatic-related issues that KHL would like to collaborate with the group on prior to filing the FLA and associated management plans. As such, I have incorporated a link to a doodle poll (below) for a series of days the week of December 14th for a meeting in Anchorage. The meeting will only be one day. The intent of the meeting will be to collaboratively review certain aquatic comments received and KHL's proposed responses to address those comments on items that KHL (and stakeholders) feel require additional dialogue and agreement in advance of FLA filing.

It is not lost on KHL that we are entering the holiday season. That said, we have done our best to propose a week in mid-December that falls between typical vacation times for the season. Please provide input via the doodle poll below by November 12th and I will then follow-up with the chosen date along with other meeting information (time, location, etc.).

Thanks and hope all is well,

Cory

<http://doodle.com/poll/88ip7up4yahsxsan>

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Tuesday, November 10, 2015 10:36 AM
To: Kenneth Hogan
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: RE: Grant Lake Project (P-13212) Revised Boundary

Thanks for looking into this Ken. Appreciate the feedback.

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Kenneth Hogan [mailto:Kenneth.Hogan@ferc.gov]
Sent: Monday, November 09, 2015 5:42 AM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: Fw: Grant Lake Project (P-13212) Revised Boundary

Cory, please see Jim's email below.

Ken

From: James Fargo
Sent: Monday, November 9, 2015 8:09:41 AM
To: Kenneth Hogan
Subject: RE: Grant Lake Project (P-13212) Revised Boundary

Bypass revision looks OK—but the boundary now looks like it's right against the tailrace and part of the penstock. Seems like we could make any small adjustments when they file as-builts (if they file as-builts)

From: Kenneth Hogan
Sent: Friday, November 06, 2015 1:45 PM
To: James Fargo
Subject: FW: Grant Lake Project (P-13212) Revised Boundary

Jim,

Kenai Hydro has revised its project boundary to remove the bypass reach from the project. Do you have any concerns with the boundary as identified in the attached?

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](http://www.federalenergyregulatory.commission.gov) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Friday, November 06, 2015 1:06 PM
To: Kenneth Hogan
Cc: 'Mike Salzetti'
Subject: Grant Lake Project (P-13212) Revised Boundary

Hi Ken,

Per our discussion, I'm attaching the portion of the boundary we discussed modifying.

Thanks,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Susan Walker - NOAA Federal [<mailto:susan.walker@noaa.gov>]

Sent: Tuesday, November 10, 2015 10:46 AM

To: Warnock, Cory <Warnock@mcmjac.com>

Subject: Out of office Re: Grant Lake Project Aquatic Resource Work Group Meeting

I am out of the office Nov 4 through Nov 18. I won't be checking my email or voice messages during this time.

Sue

--

Sue Walker
NMFS Hydropower Coordinator
Alaska Region

P.O. Box 21668
709 W. 9th Street
Juneau, Alaska 99802-1668

907-586-7646
FAX: 907- 586-7358

The line of life is a ragged diagonal between duty and desire.

Johnson, Laura

From: Warnock, Cory
Sent: Tuesday, November 10, 2015 11:00 AM
To: 'Susan Walker'; Sean Eagan - NOAA Federal
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: Grant Lake Project Documentation

Hi Sue and Sean,

You may have just seen an email proposing a meeting for the Grant Lake Project in December. In advance of that meeting and with the understanding that your agency has not been involved with many of the developmental aspects of the Project for quite some time, I wanted to make sure that you had access to all pertinent documents to facilitate an appropriate review prior to the meeting (study plans, reports, presentations, DLA, management plans, etc.). As you are aware, the most efficient way to access the aforementioned documents would likely be through the FERC eLibrary as they have all been filed. That said, if access to that utility proves to be challenging and/or you'd like to use another mechanism for accessing things, I'd be happy to facilitate that process. KHL's website (<http://www.kenaihydro.com/index.htm>) also has most of what you'd be looking for and I obviously have all of the aforementioned documentation along with an abundance of supplemental information that you may want to review. So, please use me as needed as you clearing house for accessing all documentation you may want to review prior to the meeting and don't hesitate to call if you need anything including answers to technical questions that may come up during your review. I certainly don't mean to be presumptuous and it may be that you have been keeping up with development all along or you have already undertaken the process of getting caught up. That said, given that the focus of the meeting in December will be discuss outstanding issues related to specific comments received on the DLA and management plans and the fact that many of our technical staff will not be present to discuss past methodology, data analysis, results, etc., I'm simply trying to assist in any information gathering that you may need to do in advance.

Happy to help however you need so don't hesitate to give me a call or shoot me an email.

Thanks,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

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360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Warnock, Cory
Sent: Wednesday, November 11, 2015 3:04 PM
To: 'Russell, Pamela J (DNR)' <pamela.russell@alaska.gov>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

Hi Pam,

It would be no problem at all to set up a GoToMeeting for the call. Once we get a date set, I'll get that done.

Cory

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Russell, Pamela J (DNR) [<mailto:pamela.russell@alaska.gov>]
Sent: Wednesday, November 11, 2015 2:48 PM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

Will you have tele-conferencing available?

Pamela Russell

Div. of Parks and Outdoor Recreation
Natural Resource Specialist III

514 Funny River Road

Soldotna, AK 99669

907-714-2471

The Division of Parks and Outdoor Recreation provides outdoor recreation
opportunities and conserves and interprets natural, cultural, and
historic resources for the use, enjoyment, and welfare of the people

From: Warnock, Cory [Warnock@mcmjac.com]

Sent: Tuesday, November 10, 2015 9:46 AM

To: Miller, Monte D (DFG); Jeffry Anderson; 'Susan Walker'; Sean Eagan - NOAA Federal; Russell, Pamela J (DNR); 'Patricia Berkhahn (patricia.berkhahn@alaska.gov)'; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; Klein, Joseph P (DFG); Schade, David W (DNR); Hertrich, Daniel J (AIDEA); 'rstovall@fs.fed.us'; 'Ken Hogan'; 'kenailake@arctic.net'; 'mcooney@arctic.net'

Cc: 'Mike Salzetti'; Johnson, Laura

Subject: Grant Lake Project Aquatic Resource Work Group Meeting

Grant Lake Hydroelectric Project (FERC No. 13212) Aquatic Resource Work Group Members (NRWG):

Hello Grant Lake Project ARWG Members,

We'd like to thank you all for your comments on the Grant Lake Project DLA and associated management plans. As a result of your review, KHL is currently finalizing their revision process and believes the resulting documents comprehensively describe Project development, infrastructure, operations, associated resource impacts (positive and negative), and proposed PM&E's. There are some outstanding aquatic-related issues that KHL would like to collaborate with the group on prior to filing the FLA and associated management plans. As such, I have incorporated a link to a doodle poll (below) for a series of days the week of December 14th for a meeting in Anchorage. The meeting will only be one day. The intent of the meeting will be to collaboratively review certain aquatic comments received and KHL's proposed responses to address those comments on items that KHL (and stakeholders) feel require additional dialogue and agreement in advance of FLA filing.

It is not lost on KHL that we are entering the holiday season. That said, we have done our best to propose a week in mid-December that falls between typical vacation times for the season. Please provide input via the doodle poll below by November 12th and I will then follow-up with the chosen date along with other meeting information (time, location, etc.).

Thanks and hope all is well,

Cory

<http://doodle.com/poll/88ip7up4yahsxsan>

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Warnock, Cory
Sent: Wednesday, November 11, 2015 12:42 PM
To: 'McCafferty, Katherine A POA' <Katherine.A.McCafferty2@usace.army.mil>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting
(UNCLASSIFIED)

Hi Katie,

Based on comments received, I don't see anything pressing related to your permitting process. Obviously, at the appropriate time, we will get back with you with respect to finalizing the 404 app but with respect to this meeting, I think the content will be exclusive to that. That said, I'll keep you posted on the date just in case you want to sneak away from your training. I know how those things can go sometimes! :)

Thanks and let me know if you have any questions/concerns.

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

-----Original Message-----

From: McCafferty, Katherine A POA
[<mailto:Katherine.A.McCafferty2@usace.army.mil>]
Sent: Tuesday, November 10, 2015 12:08 PM
To: Warnock, Cory <warnock@mcmjac.com>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting
(UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Cory,
I'll be in Anchorage that week, but have mandatory training the entire week of December 14th. Are there discussion points that will be important to my permit process?

Katie McCafferty
Project Manager
Direct: 907-753-2692

U.S. Army Corps of Engineers-Alaska District Regulatory Division, Kenai Field Office
44669 Sterling Highway, Suite B
Soldotna, AK 99669-7915
general office line: 907-753-2689
fax: 907-420-0813
Website: <http://www.poa.usace.army.mil/Missions/Regulatory.aspx>

-----Original Message-----

From: Warnock, Cory [<mailto:warnock@mcmjac.com>]
Sent: Tuesday, November 10, 2015 9:46 AM

To: 'Monte Miller'; Jeffry Anderson; 'Susan Walker'; Sean Eagan - NOAA Federal; 'pamela.russell@alaska.gov'; 'Patricia Berkahn (patricia.berkhahn@alaska.gov)'; McCafferty, Katherine A POA; 'Joe Klein'; Schade, David W (DNR); Daniel J. Hertrich; 'rstovall@fs.fed.us'; 'Ken Hogan'; 'kenailake@arctic.net'; 'mcooney@arctic.net'
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: [EXTERNAL] Grant Lake Project Aquatic Resource Work Group Meeting

Grant Lake Hydroelectric Project (FERC No. 13212) Aquatic Resource Work Group Members (NRWG):

Hello Grant Lake Project ARWG Members,

We'd like to thank you all for your comments on the Grant Lake Project DLA and associated management plans. As a result of your review, KHL is currently finalizing their revision process and believes the resulting documents comprehensively describe Project development, infrastructure, operations, associated resource impacts (positive and negative), and proposed PM&E's. There are some outstanding aquatic-related issues that KHL would like to collaborate with the group on prior to filing the FLA and associated management plans. As such, I have incorporated a link to a doodle poll (below) for a series of days the week of December 14th for a meeting in Anchorage. The meeting will only be one day. The intent of the meeting will be to collaboratively review certain aquatic comments received and KHL's proposed responses to address those comments on items that KHL (and stakeholders) feel require additional dialogue and agreement in advance of FLA filing.

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Thanks and hope all is well,

Cory

<http://doodle.com/poll/88ip7up4yahsxsan>
<<http://doodle.com/poll/88ip7up4yahsxsan>>

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates <<http://www.mcmjac.com/>>

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360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com <<mailto:warnock@mcmjac.com>>

Classification: UNCLASSIFIED
Caveats: NONE

From: Warnock, Cory
Sent: Monday, December 07, 2015 5:10 PM
To: 'Anderson, Jeffry' <jeffry_anderson@fws.gov>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

Hi Jeff,

Apologies for not getting back to you on the meeting sooner, I was out all of last week. You'll be receiving an email from me hopefully tomorrow to the whole group starting the rescheduling process for January. Mike is out today and I'm just waiting to hear back from him regarding his availability prior to putting out to the whole group. Given primarily the holidays (I think), I couldn't get an overall consensus from folks on a suitable date. As such, we'll need to plan for January.

Thanks for asking and again, my apologies. I'll be back in touch soon.

Cory

Cory Warnock
Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Anderson, Jeffry [mailto:jeffry_anderson@fws.gov]
Sent: Monday, December 07, 2015 4:48 PM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: Re: Grant Lake Project Aquatic Resource Work Group Meeting

Hi Cory. I have a couple of other requests for my time next week. Is there going to be a meeting?

-- Jeff

Jeffry Anderson
Field Supervisor
USFWS, Kenai Fish & Wildlife Conservation Office
43655 Kalifornsky Beach Road, Soldotna, AK 99669
Office: 907-260-0132
Cell: 907-252-4896

On Tue, Nov 10, 2015 at 9:46 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Grant Lake Hydroelectric Project (FERC No. 13212) Aquatic Resource Work Group Members (NRWG):

Hello Grant Lake Project ARWG Members,

We'd like to thank you all for your comments on the Grant Lake Project DLA and associated management plans. As a result of your review, KHL is currently finalizing their revision process and believes the resulting documents comprehensively describe Project development, infrastructure, operations, associated resource impacts (positive and negative), and proposed PM&E's. There are some outstanding aquatic-related issues that KHL would like to collaborate with the group on prior to filing the FLA and associated management plans. As such, I have incorporated a link to a doodle poll (below) for a series of days the week of December 14th for a meeting in Anchorage. The meeting will only be one day. The intent of the meeting will be to collaboratively review certain aquatic comments received and KHL's proposed responses to address those comments on items that KHL (and stakeholders) feel require additional dialogue and agreement in advance of FLA filing.

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Thanks and hope all is well,

Cory

<http://doodle.com/poll/88ip7up4yahsxsan>

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

From: Stovall, Robert -FS [<mailto:rstovall@fs.fed.us>]
Sent: Tuesday, December 08, 2015 6:05 PM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

Cory:

I forwarded this email to Adam Cross, John Lang and Angela Coleman, our primary Water and Aquatic Resource Specialists on the District. I have also included their Supervisors on the forwarded email.

I will be retiring at the end of this year and therefore will not be attending this meeting. Cory I wish you and your companies the best in completing this project. I enjoyed working with you and the various staff members who have worked on this project. Your professionalism, attention to detail, and inclusiveness has been quite refreshing.

Sincerely,

Robert



Robert Stovall
Deputy District Ranger
Forest Service
Chugach National Forest, Seward Ranger District

w: 907-743-9474, or 907-288-7707

c: 907-399-3966

rstovall@fs.fed.us

334 Fourth Street, PO Box 390
Seward, AK 99664

www.fs.fed.us



Caring for the land and serving people

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Monday, December 07, 2015 7:57 PM
To: 'Monte Miller'; 'Jeffry Anderson'; susan.walker@noaa.gov; Sean Eagan - NOAA Federal; 'pamela.russell@alaska.gov'; 'Patricia Berkahn (patricia.berkhahn@alaska.gov)'; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Joe Klein'; 'Schade, David W (DNR)'; Daniel J. Hertrich; Stovall, Robert -FS; 'Ken Hogan'; 'kenailake@arctic.net'; 'mcooney@arctic.net'
Cc: 'Mike Salzetti'; Johnson, Laura
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

Grant Lake Hydroelectric Project (FERC No. 13212) Aquatic Resource Work Group Members (NRWG):

Hi all,

Unfortunately, a majority type census could not be reached for a date to hold the meeting described below in December. As such, I'm incorporating an updated link to a doodle poll (below) for the first two weeks in January. If you all could please review your schedules and identify the dates that you would be available for a meeting by December 14th, I will follow-up with the selected date and subsequently, with meeting logistics.

Thanks and I'll look forward to hearing from you soon.

<http://doodle.com/poll/h6ii4psdmtmqi4be>

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

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360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory

Sent: Tuesday, November 10, 2015 10:46 AM

To: 'Monte Miller' <monte.miller@alaska.gov>; Jeffry Anderson <Jeffry_Anderson@fws.gov>; 'Susan Walker' <susan.walker@noaa.gov>; Sean Eagan - NOAA Federal <sean.eagan@noaa.gov>; 'pamela.russell@alaska.gov' <pamela.russell@alaska.gov>; 'Patricia Berkhahn' <patricia.berkhahn@alaska.gov>; 'Katherine McCafferty' <katherine.a.mccafferty2@usace.army.mil>; 'Joe Klein' <joe.klein@alaska.gov>; Schade, David W (DNR) <david.w.schade@alaska.gov>; 'Daniel J. Hertrich' <DHertrich@aidea.org>; 'rstovall@fs.fed.us' <rstovall@fs.fed.us>; 'Ken Hogan' <kenneth.hogan@ferc.gov>; 'kenailake@arctic.net' <kenailake@arctic.net>; 'mcooney@arctic.net' <mcooney@arctic.net>

Cc: 'Mike Salzetti' <msalzetti@HomerElectric.com>; Johnson, Laura <ljohnson@mcmjac.com>

Subject: Grant Lake Project Aquatic Resource Work Group Meeting

Grant Lake Hydroelectric Project (FERC No. 13212) Aquatic Resource Work Group Members (NRWG):

Hello Grant Lake Project ARWG Members,

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Thanks and hope all is well,

Cory

<http://doodle.com/poll/88ip7up4yahsxsan>

Cory Warnock

Senior Licensing and Regulatory Specialist

McMillen Jacobs Associates

5771 Applegrove Ln | Ferndale, WA 98248

360.384.2662 p | 360.739.0187 c

warnock@mcmjac.com

Johnson, Laura

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Sent: Monday, December 14, 2015 12:37 PM
To: 'Monte Miller'; 'Jeffry Anderson'; 'Susan Walker'; Sean Eagan - NOAA Federal; 'pamela.russell@alaska.gov'; 'Patricia Berkahn (patricia.berkhahn@alaska.gov)'; 'Katherine McCafferty (katherine.a.mccafferty2@usace.army.mil)'; 'Joe Klein'; 'Schade, David W (DNR)'; 'Daniel J. Hertrich'; 'rstovall@fs.fed.us'; 'Ken Hogan'; 'kenailake@arctic.net'; 'mcooney@arctic.net'; 'stephen_brockmann@fws.gov'; 'across@fs.fed.us'
Cc: 'Mike Salzetti'; Johnson, Laura
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warnock@mcmjac.com

Johnson, Laura

From: Warnock, Cory
Sent: Monday, December 14, 2015 3:05 PM
To: Brockmann, Steve
Cc: Johnson, Laura
Subject: RE: FW: Grant Lake Project Aquatic Resource Work Group Meeting

Hi Steve,

I wasn't happy about Jeff not being able to make it either. He has been an integral and collaborative component of the process related to the Grant Lake Project and I will certainly keep him updated with respect to any developments that come out of the meeting. We try very hard to accommodate everyone's schedules to the best of our ability (hence the poll). Jeff was literally the only one not able to make it on the 13th. Given this and the fact that we've been trying for a couple of months to get this group together, we had to make a decision based on the global consensus of the group. All that said and with respect to your request for background documentation, the most efficient way to access the aforementioned documents would likely be through the FERC eLibrary (Project No. 13212) as they have all been filed. That said, if access to that utility proves to be challenging and/or you'd like to use another mechanism for accessing things, I'd be happy to facilitate that process. KHL's website (<http://www.kenaihydro.com/index.htm>) also has most of what you'd be looking for and I obviously have all of the aforementioned documentation along with an abundance of supplemental information that you may want to review. So, please use me as needed as your clearing house for accessing all documentation you may want to review prior to the meeting and don't hesitate to call if you need anything including answers to technical questions that may come up during your review. Given that the focus of the meeting in December will be discuss outstanding issues related to specific comments received on the DLA and management plans and the fact that many of our technical staff will not be present to discuss past methodology, data analysis, results, etc., I'll be happy to help you out in advance however I can.

Thanks,

Cory

Cory Warnock

Senior Licensing and Regulatory Specialist

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360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Brockmann, Steve [mailto:steve_brockmann@fws.gov]
Sent: Monday, December 14, 2015 1:28 PM
To: Warnock, Cory <Warnock@mcmjac.com>
Cc: Jeffry Anderson <Jeffry_Anderson@fws.gov>
Subject: Re: FW: Grant Lake Project Aquatic Resource Work Group Meeting

Cory,
Got this. Thanks.

It is unfortunate that Jeff Anderson of USFWS can't make that date. I'll have to get up to speed on the project. Do you have background documents that I can review?

Steve

On Mon, Dec 14, 2015 at 11:45 AM, Warnock, Cory <Warnock@mcmjac.com> wrote:

Hi Steve,

I couldn't dig up your email anywhere and it appears as though my first attempt to convey the selected meeting date (see below) was unsuccessful. Hopefully this one works!! If you have any further questions/concerns, don't hesitate to let me know.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

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warnock@mcmjac.com

--

Steve Brockmann
Southeast Alaska Coordinator
Juneau Field Office
U.S. Fish and Wildlife Service
3000 Vintage Blvd, Suite 201

Juneau, AK 99801

Office (907) 780-1181

cell (907) 723-7839

Fax (907) 586-7099

Johnson, Laura

From: Warnock, Cory
Sent: Wednesday, December 16, 2015 10:12 AM
To: Johnson, Laura
Subject: FW: Grant Lake Project Aquatic Resource Work Group Meeting

Cory Warnock

Senior Licensing and Regulatory Specialist

5771 Applegrove Ln | Ferndale, WA 98248
360.384.2662 p | 360.739.0187 c | warnock@mcmjac.com

From: Warnock, Cory
Sent: Monday, December 14, 2015 3:06 PM
To: 'Kenneth Hogan' <Kenneth.Hogan@ferc.gov>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

All good. Let me know if any other questions/concerns come up.

Thanks!

Cory Warnock

Senior Licensing and Regulatory Specialist

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From: Kenneth Hogan [<mailto:Kenneth.Hogan@ferc.gov>]
Sent: Monday, December 14, 2015 12:56 PM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

Hi Cory,

It does help, thank you. Just curious for workload considerations; I promise not to hold you or HEA to it.

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](#) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

From: Warnock, Cory [<mailto:Warnock@mcmjac.com>]
Sent: Monday, December 14, 2015 3:44 PM
To: Kenneth Hogan
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

Hi Ken,

You are correct. Due to some issues getting this meeting scheduled along with some other pressing deadlines from an HEA perspective, we've pushed things out a little bit. We are literally at the QA/QC phase of the FLA and associated management plans. So, aside from this upcoming meeting (and any necessary and associated revisions), the remainder of the process for filing should not be significant at all. Without holding myself and/or KHL to a specific date, I'd be comfortable saying you'll be seeing it in February. Does that help? If you'd like to discuss further, always happy to jump on the phone.

Thanks and Happy Holidays!

Cory

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From: Kenneth Hogan [<mailto:Kenneth.Hogan@ferc.gov>]
Sent: Monday, December 14, 2015 12:40 PM
To: Warnock, Cory <Warnock@mcmjac.com>
Subject: RE: Grant Lake Project Aquatic Resource Work Group Meeting

Hi Cory,

Thanks for the update. With a meeting date now in January, clearly the final application won't be filed at the end of this month. Do you have a new estimated filing date?

Ken

Kenneth Hogan | Fishery Biologist | [Federal Energy Regulatory Commission](http://www.federalenergyregulatory.com) | 888 First Street, N.E., Washington, DC 20426 | 202-502-8434 |

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